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Fonction combinatoire du langage: structure et interprétation

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D’HABILITATION À DIRIGER DES RECHERCHES

FONCTION COMBINATOIRE DU
LANGAGE
STRUCTURE ET INTERPRÉTATION

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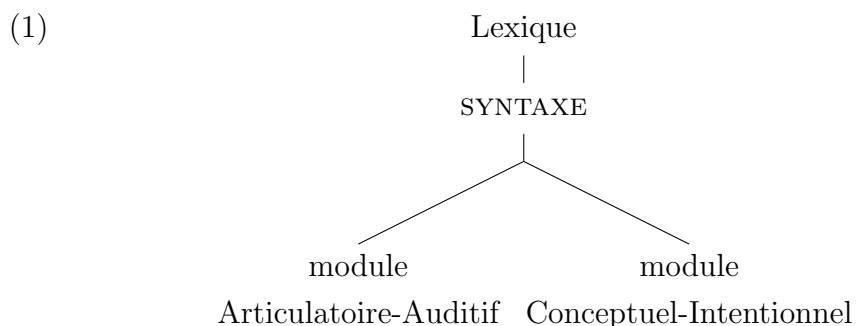
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1. Interface structure et sens

La grammaire générative considère que le langage, processus cognitif résultant de la faculté du langage, est une capacité innée de l'être humain à la fois structurée et descriptible. L'objet de l'étude linguistique est de découvrir et comprendre la réalité mentale de la compétence des individus, sous-jacente à leurs comportements linguistiques observables. Cette perspective mentaliste du langage repose sur la thèse que les productions observables dans les langues humaines proviennent de règles combinatoires simples, définies et innées, c'est ce qu'on appelle la "grammaire universelle".

Dans le modèle traditionnel de l'architecture du langage de Chomsky, aussi appelé modèle en Y (inversé), le module central des règles combinatoires de la grammaire est la syntaxe. Les composantes phonologique (spell-out) et sémantique (forme logique) sont considérés comme des modules interprétatifs : ils reçoivent en input les structures générées par la syntaxe qui sont ensuite traitées ou interprétées pour en sortir un output phonologique (l'épel) et sémantique (l'interprétation). Depuis les débuts de la grammaire générative, avec *Syntactic Structures* (Chomsky; 1957) et jusqu'encore dans le *Minimalist Program* (Chomsky; 1995), ces aspects de la langue sont conçus comme strictement modulaires, et comme conceptuellement nécessaires à une théorie explicative du langage. Dans le *Minimalist Program*, où la syntaxe est largement contrainte par les interfaces avec les systèmes *Articulatoire - Auditif* (module phonologique) et *Conceptuel - Intentionnel* (module sémantique), la modularité garde une place majeure. Mon travail, que je vais présenter dans cette synthèse, se situe plus particulièrement à l'interface entre la syntaxe et le module C-I.

Pour compléter ce modèle de la grammaire, la syntaxe a aussi besoin d'accéder à un lexique, définit minimalement ici comme l'ensemble des entrées lexicales dans la langue, qui nourrit ses opérations. (Nous reviendrons plus en détail sur le lexique dans la section suivante). Le lexique est représenté comme lui-même indépendant de la syntaxe et du module C-I, ainsi que le montre le schéma suivant :



Cette représentation relativement simpliste, et couramment adoptée, a pour but de rendre compte de l'autonomie de la syntaxe. En effet, il est communément admis que les règles syntaxiques et les principes de la langue sont formulés sans référence au sens, à la fonction ou à l'usage. Ainsi, le fameux exemple *Colorless green ideas sleep furiously* est cité par Chomsky (1957) comme une phrase grammaticale de l'anglais à tous les égards, car la syntaxe opère indépendamment du sens (purement lexical) des éléments qu'elle manipule. Grammaticalité des énoncés et sens ne vont pas nécessairement de paire.

La question de l'autonomie de la syntaxe n'est cependant pas aussi claire que ce modèle ne le laisserait penser. Il est, par exemple, bien connu que s'il est permis de faire l'hypothèse d'une structure sous-jacente commune à une phrase active et sa contre-partie passive (*Marie a réparé la porte / La porte a été réparée par Marie*), c'est parce que des considérations thématiques qui reposent sur le sens lexical du verbe et les participants à l'événement dénoté par le verbe nous y autorisent. La même chose peut être dite des interrogatives (*Quel homme as-tu rencontré?*). On peut extrapoler que la motivation fondamentale pour la D-Structure (structure profonde) et la base du mouvement en syntaxe proviennent exactement de ce que les configurations structurelles des rôles thématiques sont systématiques, associées à des positions structurelles fixes, parfois différentes de la position de surface des arguments. Il serait donc faux de dire que la syntaxe est complètement autonome du sens ou qu'elle n'a aucune influence sur le sens des expressions qu'elle construit. Ce n'est d'ailleurs pas une position généralement défendue.

Ce que l’hypothèse de l’autonomie de la syntaxe semble, en réalité, vouloir capturer est le fait que les structures et les règles syntaxiques ne peuvent pas être réduites aux structures sémantiques. De même que les propriétés de la sémantique ne peuvent pas non plus être réduites aux propriétés de la syntaxe. Il n’y a donc pas réduction de deux systèmes, mais plutôt des interconnexions systématiques entre un système qui traite de la structure et l’autre du sens. Comprendre l’interface entre syntaxe et sémantique revient donc à comprendre ces interconnexions entre deux composantes de la grammaire qui sont distinctes mais interagissent systématiquement.

Il peut sembler, au premier abord, que cette position théorique remet en question la modularité de la grammaire. Hors, il est évident que nous voulons à la fois préserver la modularité et permettre à la syntaxe et la sémantique d’interagir dans des domaines spécifiques. Une possibilité de maintenir la modularité est de scinder la sémantique en deux grands domaines : la sémantique de type *conceptuelle* qui ne joue aucun rôle grammaticalement et n’est pas visible par la syntaxe, et la sémantique que j’appellerai *grammaticale*, qui est visible par la syntaxe et participe systématiquement aux interconnexions entre structure et sens.

L’étude des interconnexions entre structure et sens est, par ailleurs, compliquée par le fait que la sémantique moderne, depuis Frege, à qui l’on attribue le *Principe de Compositionnalité*, et après lui Montague, est elle-même strictement compositionnelle. Le sens d’une expression complexe est ainsi défini comme une fonction du sens de ses parties et de la façon dont elles sont combinées syntaxiquement. Ceci veut dire que la grammaire comporte un module combinatoire qui génère les structures et un module combinatoire qui traite du sens ; chacun, cependant, avec ses règles propres.

Pour illustrer la prégnance de l’incidence de plusieurs modules combinatoires, notons qu’elle a des implications théoriques jusque dans la définition de l’opération syntaxique combinatoire de base, Merge. Différentes instantiations de l’opération Merge (càd la fusion entre deux noeuds) peuvent être associées à des interprétations radicalement

différentes. Dans le cadre sémantique relativement contraint de Heim and Kratzer (1998), que j'adopte, l'application de Merge peut être interprétée par deux règles sémantiques distinctes : l'application fonctionnelle (*Functional Application*) qui donne lieu à l'application d'une fonction à son argument (A(B)) et la modification du prédicat (*Predicate Modification*) qui donne lieu à la conjonction de prédicats (A & B). Dès lors que plusieurs interprétations peuvent être associées à la fusion de deux noeuds, deux possibilités sont offertes. Ou bien Merge est une opération syntaxique unique, dont l'output peut être associé à deux ou plusieurs règles combinatoires sémantiques différentes. Les modalités d'interprétation devant alors être définies au cas par cas, et relèvent de l'interface syntaxe - sémantique. Ou bien, ce qu'on appelle Merge regroupe en réalité une famille d'opérations syntaxiques, dont chacune est associée à une sémantique unique. Cette position est celle adoptée, par exemple, dans Chomsky (2001, 2004) qui distingue formellement deux opérations primitives *Set-Merge* et *Pair-Merge*, pour rendre compte essentiellement de la différence entre la structure argumentale et les structures adjointes. La redondance de l'une et l'autre de ces positions reste un sujet de discussion actuel.

Mais puisque la grammaire comporte deux modules combinatoires on peut légitimement s'interroger sur la nature de l'interface entre syntaxe et sémantique. Quels sont les liens possibles entre ces modules ? Quelles sont les contraintes inhérentes à chacun des modules ? Comment peuvent-elles expliquer les structures et interprétations possibles ?

Des positions diamétralement opposées ont été défendues dans la littérature. Une façon de répondre à ces questions est celle, relativement standard en grammaire générative, de la *sémantique interprétative*, mentionnée ci-dessus. Cette approche repose sur l'idée que la composante sémantique fournit des représentations sémantiques de structures générées ailleurs dans la grammaire par la syntaxe. Les règles qui génèrent le sens sont, dans ce cadre, indépendantes des règles qui génèrent les structures grammaticales. Une autre position est celle défendue par la *sémantique générative* (par Ross, Postal, McCawley,

Lakoff) selon laquelle la structure profonde d'une phrase est sa représentation sémantique en forme logique. Il n'y a donc pas de syntaxe à proprement parler, ni d'autonomie de la syntaxe, dans la mesure où syntaxe et sémantique ne sont pas distinguables.

La façon dont je pose la question de l'interface entre syntaxe et sémantique dans mon travail est toute autre cependant. Elle ne se pose pas du point de vue des formes logiques, mais du point de vue de quelle sémantique et combien de sémantique peut contraindre la syntaxe, et comment. Dans la continuité des travaux de ma thèse sur la prédication non-verbale (Roy; 2006, 2013), je défends l'hypothèse qu'il n'y a pas d'identité formelle entre sémantique et syntaxe (la syntaxe existe par elle-même et pour elle-même); mais que la syntaxe est largement contrainte par la sémantique. L'objet de la syntaxe est de comprendre comment les unités se combinent. La question que je pose pour la sémantique est pourquoi. Est-ce que la sémantique peut expliquer (en partie) pourquoi les unités se combinent de la façon dont la syntaxe les fait se combiner? Combien de sémantique est nécessaire pour construire la syntaxe et quel type de sémantique?

Je pose ces questions dans une perspective qui accepte que de nombreuses composantes du sens sont exprimées par la syntaxe, et par elle seule. Elles sont associées à des positions syntaxiques dédiées. L'idée centrale défendue ici étant que l'information de sens de type grammaticale contraint la syntaxe alors que l'information purement conceptuelle non. Nous nous attendons donc à des cas de *mismatch* possibles entre le domaine conceptuel et ce que la syntaxe voit et manipule.

Une conséquence de cette vue, qui s'inscrit dans le courant récent des approches décompositionnelles et de l'approche néo-constructionniste au lexique, est que l'information sémantique de type grammaticale ne réside pas dans le lexique. Il en découle que la question des interactions entre structure et sens se pose à l'intérieur même des mots, puisque une partie tout au moins du lexique (ou même tout le lexique selon les approches) est dérivé syntaxiquement.

La question de la fonction combinatoire du langage et de l'interface entre sens et structure est abordée dans mes travaux sous trois angles relativement différents mais, comme cette synthèse va le montrer, fondamentalement liés :

I. Co-dépendance des représentations syntaxiques, lexicales et sémantiques

Le premier thème regroupe des travaux qui mettent en évidence différents aspects du sens pertinents pour la syntaxe et comment, réciproquement, la syntaxe contraint le sens. Ces travaux se situent à l'interface entre lexicologie, syntaxe et interprétation, du point de vue de la compositionnalité des expressions complexes : nominalisations, prépositions complexes, dérivations menant à un changement catégoriel. Mes travaux sont développés dans le cadre des analyses décompositionnelles et plus spécifiquement néo-constructionnistes, qui font l'hypothèse que tout ou partie du lexique est construit par la syntaxe.

Il s'agit ici, d'une part, de mettre en évidence les processus de formation de mots dérivés en s'appuyant sur la thèse d'une interface forte entre structure et sens qui (i) repose sur des éléments de sens grammaticalisés qui jouent un rôle majeur dans la construction des unités complexes, et (ii) qui veut que la structure conditionne strictement et prédit les interprétations possibles pour ces unités complexes.

D'autre part, je présente différentes conséquences de cette vue en ce qui concerne les mécanismes par lesquels la syntaxe contraint le sens que ce soit par l'interprétation des structures complexes ou des projections syntaxiques particulières.

II. Sens grammatical vs. conceptuel

Le deuxième thème regroupe un ensemble de travaux qui s'interrogent sur la distinction fondamentale entre *sens grammatical* et *sens conceptuel*. Par sens grammatical j'entends l'information

sémantique qui est visible par la syntaxe et donc dans mes travaux et les thèses décompositionnelles plus généralement, correspond à l'information sémantique grammaticalisée. J'appelle sens conceptuel, la composante de sens qui est extra-grammaticale, et par hypothèse non visible par la syntaxe. Quelle est l'interface entre connaissance conceptuelle et connaissance grammaticale ? Quel type d'information sémantique interagit avec la syntaxe et comment ?

Je montre que cette distinction joue un rôle essentiel pour éclairer un certain nombre de phénomènes de grammaticalisation connus pour résister à l'analyse. Le domaine d'étude est celui des événements dans deux domaines empiriques distincts : les noms d'événement et les dispositions ; ainsi que de la sémantique des prépositions complexes.

III. **Emergence du langage**

Ce troisième thème regroupe des travaux plus récents qui montrent comment la relation entre syntaxe et sémantique aide à comprendre le développement du langage chez l'enfant. Mes travaux portent sur l'émergence de la fonction combinatoire dans les premières productions enfantines (2 mots et plus). Ils documentent l'émergence de l'opération combinatoire Merge, de l'application récursive de Merge, et des opérations combinatoires sémantiques associées. Ils présentent un argument fort en faveur de la fonction combinatoire, et de la variation individuelle dans les processus d'acquisition.

Cette synthèse présente et introduit les trois thèmes majeurs développés dans mes articles, en les replaçant dans le contexte théorique dans lequel ils ont émergé et en détaillant les contributions particulières faites par chacun. Mes travaux sont organisés à la suite, dans l'ordre dans lequel ils sont mentionnés dans le texte.

2. Thème I - Co-dépendance des représentations syntaxiques, sémantiques et lexicales

Dans l'approche de l'interface syntaxe - sémantique que j'adopte et que je défends, il ne s'agit pas seulement de comprendre les mécanismes d'interprétation de structures syntaxiques plus ou moins complexes, mais de définir les éléments sémantiques de base qui participent à la structure syntaxique, à tous les niveaux pertinents de décomposition. Les travaux que je présente dans cette section s'intéressent à cette question dans le contexte des interactions entre syntaxe, sémantique et lexique. Le domaine d'étude concerne la co-dépendance des représentations syntaxiques, sémantiques et lexicales dans le cas des formations complexes dérivées, telles que les nominalisations et les prépositions complexes. Mes travaux avancent deux conclusions majeures. D'une part qu'il existe des éléments de sens qui sont pertinents pour la syntaxe, et qui sont grammaticalisés, c'est-à-dire associés systématiquement à leur propre projection fonctionnelle. Cette conclusion est en accord avec de nombreux travaux récents qui défendent une approche syntaxique au lexique (voir références ci-dessous). D'autre part, que les structures syntaxiques, reposant sur de telles projections fonctionnelles, contraignent largement l'interprétation. Ces deux éléments forment les deux facettes de ce que j'appelle une interface *forte* entre syntaxe et sémantique. Par interface 'forte' doit être entendue une interface dans laquelle les deux modules se contraignent mutuellement.

2.1. Analyses décompositionnelles. Mes travaux s'inscrivent dans le cadre des approches récentes du lexique qui reposent sur les théories décompositionnelles et les théories néo-constructionnistes qui en ont découlé. Ces approches défendent l'idée que tout ou partie du lexique (selon les approches) est dérivé par les mécanismes combinatoires de la syntaxe. Les unités lexicales telles que généralement acceptées, ne sont plus, dans ces approches, des primitives du langage. Elles sont, par contraste, le fruit de la (dé)composition d'unités structurelles et sémantiques plus petites. La syntaxe génère des structures complexes qui peuvent, parfois, être réalisées phonologiquement

comme un mot unique. Selon l'hypothèse de Late Insertion (Marantz; 1997), en particulier, les mots tels que communément définis, sont la réalisation phonologique de morceaux de structure dont les propriétés interprétationnelles sont en partie contraintes par la représentation syntaxique.

Deux types de décomposition à l'interface syntaxe - sémantique ont été proposés dans la littérature. La décomposition peut être *sémantique* dans le contexte de la décomposition des prédicats verbaux telle que proposée par Hale and Keyser (1993), pour qui un verbe comme *kill* doit être analysé comme la composition de plusieurs prédicats [cause-to-die]. Les propriétés des verbes sont alors le résultat de cette décomposition et son interface avec la structure (par exemple CAUSE est associé à une tête *little v*, etc.). La décomposition est d'ordre *syntactique* dans les cadres plus récents de Marantz (1997); Borer (2005a,b); Ramchand (2008), parmi d'autres, qui attribuent une valeur grammaticale réduite ou nulle aux racines. Celles-ci sont donc partiellement (chez Marantz) ou totalement (chez Borer) dépourvues de propriétés syntaxiques, héritant leurs propriétés spécifiques de la structure dans laquelle elles apparaissent. La structure dans laquelle est insérée la racine comprend un ensemble de projections fonctionnelles motivé par les propriétés sémantiques des éléments lexicaux (par exemple, projection de l'aspect, Borer (2005a); projection de init/proc/res, Ramchand (2008), etc.). Deux grandes hypothèses structuralistes ont émergé qui, bien que différentes sur un nombre notables de points, partagent des présupposés de bases qui nous paraissent importants et les opposent théoriquement aux approches lexicalistes antérieures (voir, par exemple, Scalise and Guevara (2005)) : Distributed Morphology (Halle and Marantz; 1993), et l'analyse Exosquellétale (Borer; 2003, 2005a,b).

Les analyses néo-constructionnistes rejettent, à des degrés parfois variables, l'existence de tout ou partie du lexique à proprement parler ; ce qui a comme conséquence immédiate de rendre la question de l'interface entre structure et sens pertinente aux niveaux les plus bas de composition syntaxique à l'intérieur même des mots (par ex., les nominalisations), dans la décomposition des événements, ou encore pour

la prédication (Roy; 2006, 2013). Il est suffisant de faire l'hypothèse d'un seul module de syntaxe et d'un seul module sémantique; et que les règles combinatoires de l'un et de l'autre s'appliquent de façon égale à travers des structures de tailles variées, de la structure interne des mots aux structures phrastiques les plus complexes.

Dans ces hypothèses de décomposition lexicale, l'interface syntaxe - sémantique est le point d'appui de la décomposition. D'une part parce que la décomposition se base sur des éléments sémantiques dont il est fait l'hypothèse qu'ils sont associés de façon systématique à des projections structurelles dédiées. Les projections structurelles sont définies sur la base de leur contribution sémantique. Chaque projection structurelle, essentiellement des projections fonctionnelles, apporte sa propre contribution sémantique au calcul du sens d'une expression. D'autre part, parce que des prédictions claires émergent sur les possibles combinaisons structurelles et leur possible interprétation. Les différences de sens entre différents énoncés (à l'intérieur du mot, ou dans les syntagmes) sont alors le résultat de différences structurelles internes des éléments fonctionnels constitutifs de l'énoncé (building blocks).

Dans de telles analyses, la correspondance entre sens et structure doit être parfaite, puisque la syntaxe est construite sur le sens grammaticalisé. Ces hypothèses ont un pouvoir explicatif fort qui peut être développé dans tous les domaines de la syntaxe et du lexique. Elles ont cependant comme conséquence que la correspondance stricte entre sens et structure doit être respectée dans tous les cas.

Dans une certaine mesure, l'entreprise cartographique, dont le projet est d'étudier les catégories fonctionnelles et les relations qu'elles entretiennent (Cinque; 1999; Belletti; 2004; Rizzi; 2004, par exemple), participe précisément à ce programme, en ce sens qu'elle s'intéresse aux configurations syntaxiques possibles (grammaticales ou fonctionnelles) sur la base d'un inventaire de traits ou distinctions sémantiques interprétables (Shlonsky; 2010). La définition de la nature et du nombre des catégories fait appel à leur contenu sémantique qui interagit de façon systématique et prévisible avec les configurations structurelles dans lesquelles elles apparaissent et leur ordre.

2.2. Compositionnalité dans les nominalisations. Les nominalisations présentent, dans ce cadre, un cas intéressant de combinaison sens - structure. Malgré les nombreux travaux de ces 50 dernières années, depuis Lees (1960) et Chomsky (1970), les nominalisations restent relativement mal comprises. Une des raisons est le statut trans-catégoriel de ces mots qui appartiennent à la classe des noms mais possèdent (pour certaines nominalisations tout au moins) des propriétés typiquement associées aux prédicats verbaux ou adjectivaux. Si les propriétés grammaticales spécifiques comme ‘être un prédicat’, ‘avoir un argument’ sont associées à des projections structurelles fonctionnelles dédiées, nous sommes en mesure de faire un certain nombre de prédictions sur l’interprétation, la structure interne et la distribution de ces noms dérivés.

Depuis Grimshaw (1990), il est communément admis que les noms déverbaux comme *construction* peuvent être interprétés ou bien comme des noms d’événement complexes (*La construction de la cathédrale par les fidèles a duré un siècle*), ou bien comme des noms de résultat, aussi appelés “noms référentiels d’objet” dans Borer (1999) (*Cette construction date de 1813*). Dans le premier cas, le nom *construction* dénote un événement et doit nécessairement réaliser la structure argumentale du verbe sur la base duquel il est dérivé (ce qui donne lieu à l’agrammaticalité de **La construction a duré un siècle*, sauf lorsque les arguments implicites peuvent être identifiés par le contexte). Dans le second cas, le nom dénote un objet matériel et n’a de relation à un événement que dans le sens où il peut en exprimer le résultat (par exemple, *une construction, une peinture, un rapport*). Dans ce cas, aucun argument n’est réalisé. Du point de vue de la structure interne de ces noms, des travaux récents ont suggéré que, alors que les noms d’événement complexes reposent sur une structure qui inclut les arguments du verbe, les noms référentiels d’objet sont construits sur une structure plus “simple”, incluant essentiellement une racine verbale dépourvue de ses arguments (cf., Borer (1999); Alexiadou (2001) pour la distinction argument-structure nominals / referential nominals).

La source de l'interprétation d'événement dans ces noms doit être expliquée. L'option défendue par les approches lexicalistes est que le sens d'événement est une propriété lexicale de ces noms. Cette vue force cependant la multiplication des entrées lexicales pour rendre compte des alternances entre noms d'événements et noms homophones qui ne sont pas associés à un événement (par ex. *construction*₁ et *construction*₂, avec des spécificités lexicales différentes). L'option structuraliste, qui repose sur l'articulation de l'interface syntaxe - sémantique qui nous intéresse ici, défend l'idée que la source de l'événement présent dans les nominalisations déverbiales événementielles est structurelle et repose sur la présence à l'intérieur de ces noms de projections véritablement verbales (ou aspectuelles) (Alexiadou; 2001; Borer; 1999, 2001, 2003, 2005b). Dans ce cas, les propriétés observées pour les noms événementiels et non-événementiels résultent simplement de la computation linguistique, et les projections associées à l'événement jouent un rôle similaire dans le verbe et dans le nom dérivé. La composition structurelle interne de ces noms (présence ou non d'un verbe, par exemple) dicte ensuite leur distribution.

Il découle de ces analyses que les nominalisations peuvent être formées sur une base verbale/aspectuelle (noms d'événement complexes) ou sur de simples racines (noms de résultats ou d'objets). Dans l'article "*Nominalizations : new insights and theoretical implications*" (2011), introduction au volume 40 de RLV, nous présentons les différents arguments en faveur de la position adoptée dans les présents travaux, à savoir que certains noms sont de vrais déverbaux alors que d'autres sont dérivés directement de racines. La différence entre les deux classes de noms tient à la présence de projection fonctionnelles typiquement verbales ou aspectuelles dans le premier cas et leur absence dans le second. Les noms dérivés de racines directement sont dépourvus des contributions variées de ces projections fonctionnelles.

Les travaux regroupés dans la présente section soutiennent l'hypothèse que la distinction entre noms dérivés de verbes pleins vs. racines s'étend à des domaines empiriques nouveaux, à savoir les noms désadjectivaux et les noms d'agent. Ils ouvrent la voie à de nouvelles

questions théoriques concernant le statut des événements dans les noms. En effet, si la lecture d'événement est associée par hypothèse à l'héritage d'un verbe, ou de projections typiquement verbales, dans la dérivation, plusieurs questions se posent qui sont la base empirique des travaux présentés ici. Est-ce qu'il existe une lecture d'événement (ou éventualité / état) pour les noms désadjectivaux, c'est-à-dire lorsque la base prédicative est adjectivale et non plus verbale ? Est-ce que tous les déverbaux peuvent être construits sur une structure verbale ? Est-ce le cas des nominalisations d'agent qui dénotent des individus (*conducteur, driver*) ? Y a-t-il héritage systématique des propriétés événementielles de la base verbale / adjectivale dans le nom ? Quelle est l'influence de la structure interne de la base de la nominalisation, lorsque cette base est participiale ?

2.3. Nominalisations d'individus. Dans les articles “L'enquêteur, le surveillant et le détenu : *les noms déverbaux de participants aux événements, lectures événementielles et structure argumentale*” (2011), “*On the internal event properties of -er nominals*” (2014), “*Les noms d'humains dérivés de participes : nominalisations en -ant et -é/i/u*” (2014), et “*Nominalisations de participes : propriétés verbales et syntaxe interne*” (2015), le domaine empirique des nominalisations déverbaux est élargi au cas des noms d'individus, qui ont en commun avec les autres nominalisations déverbaux de dériver potentiellement de bases verbales, mais diffèrent radicalement en ce sens qu'elles dénotent des individus et non plus des événements complexes ou des résultats. Deux cas relativement méconnus nous ont intéressés : les nominalisations dites “d'agent” (noms en *-er* de l'anglais et *-eur* du français) et les nominalisations sur bases participiales du type *habitant, détenu, marié*.

Dans le contexte des théories de la nominalisation, les noms de participants aux événements posent une question empirique et théorique intéressante. Puisque de tels noms dénotent des participants aux événements, ils ne peuvent, par hypothèse, qu'être construits sur une base verbale “complète”, c'est-à-dire qui inclut ses arguments, étant eux-mêmes des nominalisations de tels arguments. Partant de l'hypothèse

qu'il existe une corrélation entre réalisation de la structure argumentale et lecture événementielle dans les nominalisations, il est attendu que ceux-ci donnent nécessairement lieu à une lecture événementielle (impliquant une participation à un événement particulier). Ceci n'est cependant pas toujours le cas. Par exemple, le nom *constructeur* peut être événementiel dans *Le constructeur de cette maison ne veut pas raboter les fondations* (où *constructeur* est interprété en relation à un événement sous-jacent particulier de construire), mais pas dans *La municipalité a auditionné un nouveau constructeur*. Ici le nom renvoie à une "disposition" et n'implique pas nécessairement un tel événement. La lecture dispositionnelle est inattendue et doit être expliquée, dans un effort pour fournir une théorie unifiée de la relation entre sens événementiel et structure argumentale dans les nominalisations.

Une autre question qui met en cause la lecture événementielle des noms d'individus concerne le paradigme de modification aspectuelle suivant, qui laissent penser que les noms d'agent ne sont en réalité jamais événementiels :

- (2) a. le lecteur du livre (*en trois minutes)
- b. lire le livre (en trois minutes)
- c. la lecture du livre (en trois minutes)

Les données ci-dessus semblent donc mener à une incohérence. Si, comme nous le disons, les noms d'agent peuvent être interprétés comme des noms de participants dans un événement particulier, pourquoi rejettent-ils systématiquement les modifieurs aspectuels de type *en trois minutes* qu'à la fois le verbe et le nom d'événement complexe associé acceptent ?

Sur la base des tests de la modification adjectivale, qui reposent sur des lectures événementielles fines des adjectifs de type *gros*, *grand*, *vieux*, nos travaux ont mis en évidence l'existence de trois classes distinctes de nominalisations. La modification adjectivale est un test essentiel de la lecture d'événement si l'on contrôle pour la lecture d'événement interne, qui est effectivement associée à une base prédicative/verbale

sous jacente, et les diverses lectures d'événements externes qui peuvent provenir de la généricité, de la lecture de type, entre autres. A la suite de Gehrke and McNally (2012), nous montrons que seule la lecture interne est associée à un événement interne. Les classes de noms qui émergent alors de la distribution de ces adjectifs, sous la lecture interne, sont les noms d'instrument / les noms d'individu épisodiques / les noms d'individu dispositionnels.

L'évènement interne est celui effectivement associé à un verbe à l'intérieur de la nominalisation. Un tel événement est discernable en (3) mais pas en (4) :

- (3) a. La destruction de la ville par les ennemis a été terriblement choquante.
= les ennemis détruisent la ville
- b. Un consommateur fréquent de cette marque a exprimé une opinion favorable
= quelqu'un qui consomme fréquemment cette marque
- (4) a. Ces jolies cristallisations dataient de l'antiquité.
≠ qui cristallisent joliment
mais : des cristallisations qui sont jolies
- b. De rares travailleurs nous donnaient le bonjour.
≠ des personnes qui travaillent rarement nous donnaient le bonjour ;
mais : rarement, des travailleurs nous donnaient le bonjour

Il apparait évident que les tests proposés par Grimshaw (1990) doivent être raffinés dans le sens des travaux récents sur la sémantique de la fréquence et des événements.

La taxonomie à laquelle la distribution des adjectifs fait aboutir ne peut être expliquée que si l'on adopte une analyse syntaxique à la formation des noms en *-er* de l'anglais / *-eur* du français qui oppose des noms dérivés verbaux et des noms dérivés sur des racines directement. Une analyse qui ferait l'hypothèse que les noms en *-er/eur* ne sont jamais événementiels ne prédirait pas le comportement des noms d'agent

épisodiques et dispositionnels. Une analyse qui proposerait que tous les noms en *-er/eur* sont événementiels (Alexiadou and Schäfer; 2010) ne pourrait pas rendre compte du comportement particulier des noms d’instrument qui n’acceptent jamais d’adjectifs à lecture d’événement interne (par ex. #*Ce gros ventilateur*; ne peut pas être une petite machine mais qui ventile beaucoup). Dans ce domaine, les noms d’instruments se comportent comme les noms d’objets non-dérivés, et nous formulons l’hypothèse logique que leur distribution commune découle d’une structure interne partagée qui ne comprend aucune projection fonctionnelle verbale/aspectuelle, ce qui explique l’absence de modification adjectivale. La corrélation importante entre lecture d’événement / réalisation des arguments / base verbale est maintenue uniformément à travers les nominalisations d’individus et d’événement complexes.

Les noms déverbaux d’individus, qui peuvent être interprétés comme épisodique ou dispositionnel, pose la question de la source de la sémantique de disposition dans ces noms. Nous montrons que le sens dispositionnel peut avoir des sources diverses, et peuvent varier à travers les langues. Nous proposons, à la suite de Alexiadou and Schäfer (2010) que la lecture de disposition découle d’un opérateur qui quantifie sur l’événement interne. Pour Alexiadou et Schäfer cet opérateur est un opérateur dispositionnel; nous adoptons une vue légèrement différente dans laquelle ce n’est pas un opérateur *ad hoc*, mais bien l’opérateur générique qui déclenche la lecture dispositionnelle. Ces résultats vont dans le sens de travaux récents sur les nominalisations qui ont montré que la structure interne de ces noms dérivés est beaucoup plus fine qu’on ne l’a imaginé au début des années 90. En effet, il est maintenant clair que les nominalisations peuvent exprimer des distinctions fines en terme d’aspect (perfectivité, telicité; cf. Haas et al. (2008); Alexiadou et al. (2010); Knittel (2011), parmi d’autres) et de la structure de l’événement interne plus généralement (Sichel; 2010).

La sémantique et la syntaxe des dispositions est encore largement mal comprise, et j’y reviendrai dans la section 3.2. Un résultat important qui peut, cependant, apporter des éléments pour la compréhension

plus générale des noms dispositionnels est que la source du sens de disposition n'est pas nécessairement unique et peut varier à travers les langues, en particulier. Il est, en effet, possible que plusieurs configurations structurelles différentes, avec leurs corrélats sémantiques associés, mènent à une même lecture de disposition. C'est exactement ce qui explique, comme nous le suggérons, la différence entre les propriétés distributionnelles et structurelles des noms en *-er* dispositionnels de l'anglais et en *-eur* dispositionnels du français. Les dispositions en *-eur* du français (par ex. *chauffeur de taxi*) sont complexes, construites sur des bases verbales qui introduisent un événement lié par un opérateur de généralité. À l'inverse, les dispositions en *-er* de l'anglais (par ex. *taxi-driver*) sont des composés synthétiques qui ne sont pas dérivés de verbes et ne manifestent aucune propriété de structure argumentale. Comme Borer (2012) le montre, ces noms sont de simples nominalisations de racines dans lesquelles le nom (ici *taxi*) agit comme un modifieur et pas un argument. Le sens dispositionnel en anglais n'est pas dérivé compositionnellement.

L'autre domaine empirique d'étude concerne les noms dérivés de formes participiales de type *habitant, détenu, marié*. Puisque ces formes ne sont pas de simples racines, mais des formes déjà dérivées de verbes, quelle est la contribution sémantique du participe et quelles en sont les conséquences pour la nominalisation ? En prenant comme point de départ la dérivation sur une forme participiale, on peut s'attendre soit à l'affaiblissement des propriétés événementielles du nominal, par le fait que le participe a un caractère verbal diminué ou réduit, soit à l'héritage de ces propriétés. Dans l'approche que nous adoptons, le degré d'événementialité découle de la structure fine du domaine nominalisé, où chaque niveau structurel est associé à une contribution sémantique spécifique.

L'étude des propriétés événementielles et agentives des noms en *-ant* et *-é/i/u* fait apparaître un contraste entre, dans le premier cas, la nominalisation d'un sujet de prédication englobant à son tour une structure participiale, et dans le second cas la nominalisation d'un argument interne directement. Indépendamment de cette différence,

dans ces deux classes de nominaux, la même distinction est à faire entre les noms d'humains et les noms d'instruments ou de produits. Les propriétés événementielles caractérisent seulement les premiers à la différence des derniers, comme c'est le cas pour les *-eur*, suggérant que les deux processus distincts de nominalisation, à savoir la dérivation à partir de formations verbales complexes ou de racines simples, sont disponibles.

À part cette similitude, la dérivation sur la base de participes verbaux n'a que peu de propriétés communes dans le cas des *-ant* vs. *-é/i/u*, puisque des niveaux différents de structure entrent en jeu qui dérivent des sens différents et des propriétés événementielles / verbales différentes. Ce travail confirme que le degré d'événementialité du nominal découle de la structure fine du domaine nominalisé, où chaque niveau structurel est associé à une contribution sémantique spécifique et que la structure des dérivés participiaux n'est pas homogène.

Ces travaux tendent à deux conclusions additionnelles relatives à la co-dépendance sens-structure. D'une part, que l'interprétation des formes nominalisées sur la base d'un participe présent ou participe passé peut être prédite. La spécialisation sujet (pour *-ant*) / objet (pour *-é/i/u*) découle du lien entre l'argument nominalisé et la forme participiale. La spécialisation sujet / objet, ainsi que la répartition des sens entre base participiales passées et présentes est prédite par la nature même de la base. Pour le participe présent, la nominalisation prend en compte la composante aspectuelle qui, comme le gérondif en *-ing* en anglais, projette un niveau d'aspect haut, associé à l'argument externe. Or, lorsque la structure englobe des niveaux hauts d'aspect ou de voix, l'agent est structurellement disponible. La nominalisation identifie alors la position argumentale la plus haute, à savoir l'argument externe. La spécialisation pour le sujet découle, alors, de principes standards de localité qui font que l'identification du sujet doit se faire avec l'argument disponible le plus proche, en l'occurrence l'argument externe. Pour le participe passé/passif, qui sont soit des formes perfectives, soit des constructions réduites centrées sur l'argument interne, l'argument externe a été absorbé par la morphologie participiale

(dans le cas du passif) ou bien celui-ci n'est tout simplement pas projeté. Par conséquent, la seule position argumentale disponible est celle de l'argument interne, menant systématiquement à une interprétation d'objet pour les noms déverbaux formés sur les participes passés en *-é/i/u*.

Pour finir, nous concluons que les nominalisations se font sur la base de domaines de sens et structures complexes mais dont certains seulement permettent un accès direct à leurs propriétés sémantiques et syntaxiques internes. En particulier lorsque plusieurs domaines prédicatifs sont réalisés (par l'enchâssement de l'un dans l'autre), seul compte le domaine supérieur, où se fait le calcul interprétationnel. Ainsi, ce qui va être nominalisé dans la nominalisation par *-ant* est la position sujet de la position prédicative haute ; mais pas les arguments du VP enchâssé. La nominalisation n'a pas accès au domaine inférieur, ce qui explique l'absence d'accès direct à la structure argumentale et donc, l'absence de nominalisation de l'agent et l'absence de contribution de l'argument interne dans la composition du sens de la nominalisation. La définition de ce qui compte comme un domaine "opaque" (non accessible pour la nominalisation) semble s'appuyer fortement sur la notion de prédication ou domaine prédicatif. Il est possible que ces mêmes principes expliquent l'impossibilité de nominaliser les verbes à complément propositionnel (*croire que la Terre est ronde* — **la croyance que la Terre est ronde* ; *penser que la Terre est ronde* — **le penseur que la Terre est ronde*).

Ces points apportent des arguments supplémentaires pour le traitement des nominalisations de participes comme la nominalisation de structures fines et complexes, à partir desquelles le sens est composé, et non pas de simples 'conversions' de participes. Ils mettent en évidence des procédés fins d'interaction entre structure et sémantique dans la nominalisation, qui vont au delà de ce qui avait été décrit dans la littérature jusqu'à présent.

2.4. Noms désadjectivaux : éventualité stative, structure interne et distribution. La notion d'événement dans les noms d'événement peut s'entendre dans un sens restreint où événement est associé à la dynamicité et/ou un changement d'état. C'est le sens admis, par exemple, par Davidson (1967) pour qui la variable d'événement (*Davidsonian event variable*) est associée aux verbes dynamiques. Les néo-davidsoniens (Parsons; 1990, 2000; Higginbotham; 1996, 2000, 2005) ont élargit cette notion à un sens plus vaste qui comprend les éventualités statives, par définition non-dynamiques. Cette vision n'est pas sans controverse. Les éventualités statives ne sont pas des événements d'un point de vue conceptuel, du fait de l'absence même de dynamicité; grammaticalement, cependant, les prédicats statifs introduisent, tout comme les prédicats dynamiques, une variable, ici variable d'état.

Si nous acceptons, comme je le fais dans Roy (2006, 2013) que les prédicats statifs ont des variables d'éventualité (au sens large), il est alors possible de se demander si les noms dérivés d'adjectifs (porteurs d'une éventualité stative grammaticale) sont aussi sensibles à une dichotomie entre noms désadjectivaux véritables et noms dérivés de racines.

L'article "*Deadjectival nominalizations and the structure of adjectives*" (2010) montre que les noms désadjectivaux n'appartiennent effectivement pas à une classe unique, mais bien à deux classes selon qu'ils dénotent des états (*S(tate)-nominals*) ou des qualités (*Q(quality)-nominals*). Ces deux classes de noms présentent des propriétés divergentes en ce qui concerne les tests communément utilisés depuis Grimshaw (1990) pour diagnostiquer l'événement dans les noms : la réalisation obligatoire de la structure argumentale, la modification par des adjectifs orientés vers l'événement de type *constant*, *fréquent* ou modaux de type *possible*. Les S-nominals permettent la réalisation d'arguments et acceptent les modifieurs d'événement, ce qui dans l'approche néo-constructionniste au lexique défendue ici signifie qu'ils sont formés sur un véritable prédicat adjectival. Par hypothèse, les Q-nominals, qui rejettent de tels modifieurs, doivent être construits sur de simples racines.

Si les S-nominaux sont construits sur des prédicats adjectivaux, et les Q-nominaux ne le sont pas, l'approche syntaxique prédit qu'une projection fonctionnelle associée à la prédication doit être présente dans les S-nominaux et absente dans les Q-nominaux. L'étude détaillée des classes d'adjectifs qui permettent la nominalisation de type S-nominaux montre que seuls les adjectifs qui ont un sens intersectif et un usage prédicatif (c'est-à-dire peuvent être construits avec la copule) sont possibles comme base de nominalisation. Ces faits mènent à penser que la valeur intersective / non-intersective (càd privative, subjective, adverbiale, qui ont en commun de ne pas donner lieu à une lecture d'intersection entre deux ensembles) est associée à une différence structurelle entre adjectifs prédicatifs (et intersectifs) et non-prédicatifs (et non-intersectifs).

Faisant l'hypothèse que cette différence réside dans la projection d'une tête fonctionnelle Pred° (suivant Bowers; 1993; Svenonius; 1994) dans le premier cas, et l'absence d'une telle tête dans le second cas, la distribution des lectures des adjectifs servant de base à la nominalisation, ainsi que la variété des interprétations possibles pour la nominalisation s'expliquent par le jeu des combinaisons syntaxiques et leurs corrélats sémantiques. La corrélation importante pour les noms déverbaux entre lecture d'événement et réalisation de la structure argumentale est préservée pour les noms désadjectivaux.

L'existence des S-nominaux ne pose aucune difficulté pour cette théorie puisque les noms désadjectivaux ne peuvent être formés que sur des bases prédicatives PredP qui introduisent, par hypothèse, une variable d'éventualité, ici stative. L'apparent conflit entre la présence obligatoire d'une variable d'événement sous-jacente associée à la structure des adjectifs prédicatifs et l'existence des Q-nominaux, qui ont une valeur de qualité et pas d'état, est résolue si l'on remarque que toute nominalisation désadjectivale est en fait ambiguë entre un S-nominal et un Q-nominal; contrairement aux déverbaux pour lesquels on observe, par exemple, la spécialisation de certains suffixes pour une ou l'autre lecture. L'étude détaillée de ces formes montre qu'il n'y a pas d'équivalent des noms de résultat (qui sont, je le rappelle, dérivés de

racines). Ceci s’explique si les désadjectivaux sont toujours construits sur des PredP, et la différence de sens entre S-nominaux et Q-nominaux est dérivée par un *pro*_{arbitraire} dans le second cas. L’absence de lecture d’état pour les Q-nominaux est la conséquence des mécanismes d’interprétation de *pro* existant par ailleurs dans le domaine phrastique, et d’assignation de la lecture arbitraire sous la généralité. Les propriétés des noms désadjectivaux dérivent de l’interaction entre leur structure interne, indépendamment contrainte par la réalisation d’un PredP, et *pro* dans le cas des Q-nominaux, et les propriétés sémantiques de ces éléments. Cette étude apporte des arguments supplémentaires pour traiter les nominalisations par les mêmes opérations de construction de la structure que la syntaxe du niveau syntagmatique et phrastique, avec l’hypothèse que la syntaxe est contrainte par la sémantique.

Par ailleurs, les résultats de ces travaux sur les formes nominales dérivées d’adjectifs contribuent de façon pertinente au débat entre les approches structuralistes et constructivistes de la syntaxe, et par extension du lexique. Il apparaît évident que les mécanismes de formation des mots dérivés “voient” ou ont accès à une information structurelle à l’intérieur des expressions complexes (ici, l’adjectif prédicatif, par ex.). Une approche constructiviste, selon laquelle les unités de bases de la grammaire sont des constructions, définies comme des paires symboliques sens-structure dont la valeur n’est pas immédiatement recouvrable par celle de ces parties (Goldberg; 2003) serait incapable d’expliquer les restrictions observées ni même de rendre compte d’une quelconque généralisation dans ce domaine. Les mots dérivés syntaxiquement ont un sens compositionnel qui peut être prédit par l’interaction de la structure et de la valeur sémantique des projections, et les restrictions sur les bases peuvent être généralisées, ce que la Grammaire de Construction ne saurait faire.

2.5. Structure et contraintes sur le sens. Comme je l’ai dit précédemment, une interface forte entre syntaxe et sémantique présente deux facettes : des éléments constituants du sens sont grammaticalisés et participent à la structure de façon systématique, et la structure

prédit directement les interprétations possibles. Les travaux présentés dans la section précédente ont fourni une série d’arguments pour le premier aspect de l’interface. La présente section regroupe un ensemble de travaux qui exemplifient plus spécifiquement le deuxième aspect de l’interface : comment la syntaxe peut contraindre l’interprétation. Il découle de l’approche décompositionnelle reposant sur une interface forte que les modes même de formation des unités syntaxiques (que ce soit les mots ou la phrase) doivent contribuer à des différences sémantiques entre différents groupes d’expressions : des dérivations morpho-syntaxiques différentes doivent nécessairement mener à des différences interprétationnelles, puisque les combinaisons structurelles et les combinaisons sémantiques vont de paire. Les structures sont construites sur les éléments de sens grammaticalisés ; le sens, construit à partir des structures, doit être contraint par les structures.

Je présente une série de cas variés, mais qui ont en commun de montrer comment l’interprétation peut être prédite sur la base de la structure. Le premier cas de contrainte de la syntaxe sur l’interprétation concerne le rôle des modes de combinaisons et de la valeur sémantique des projections syntaxiques dans l’interprétation des formes complexes dérivées. La question qui se pose est de comprendre comment la structure syntaxique contraint la composition sémantique. L’article “*The Name of the Adjective*” (2010) pose précisément cette question en s’intéressant à d’autres formes de conversion de l’adjectif vers le nom, qui ne sont pas à proprement parler des nominalisations (voir section précédente), et en particulier aux adjectifs utilisés comme des noms, c’est-à-dire avec des déterminants, mais dont le statut nominal ne peut être associé à une morphologie nominalisante : *les petits, le rouge, un malade*, etc. L’absence de suffixation pose une double question : est-ce que ces formes sont des noms homophones avec des adjectifs ($\text{petit}_N/\text{petit}_A$, $\text{malade}_N/\text{malade}_A$) ? Si non, quel est le processus de nominalisation sous-jacent qui permet à de simples adjectifs de prendre des déterminants et d’apparaître en position argumentale d’un verbe ? Mais pour notre propos, le plus important est de comprendre comment la composition structurelle de ces formes nominalisées contraint leur

interprétation et leur distribution. Nous montrons ici comment le sens compositionnel est obtenu à partir de la structure.

L'étude des données du français, de l'espagnol, et de l'hébreu montre que les propriétés structurelles internes des noms dérivés d'adjectifs permettent de différencier deux classes de noms ; ceux qui sont véritablement des noms (homophones avec des adjectifs) et ceux qui sont des formes adjectif-*pro*. (Voir, par exemple, Sleeman (1996) parmi d'autres). Les noms homophones avec des adjectifs ne présentent pas de propriétés distributionnelles particulières qui les distinguent d'autres noms comme *table*, *chaise*, *voiture*. Nous pouvons considérer que si l'homophonie est expliquée par une racine (et donc un sens conceptuel) commun, elle reste partiellement accidentelle, en ce sens que la langue pourrait tout aussi bien avoir une forme nominale dédiée, différente de l'adjectif. Les constructions Adj-*pro*, dans lesquelles l'adjectif modifie une tête (pro)nominale nulle, se comportent, cependant, tout à fait différemment. En particulier, elles ne sont jamais admises dans les positions qui mènent à une interprétation faible, comme par exemple la position sujet d'une phrase existentielle (*Il y a des petits dehors* / **Il y a des jaloux dehors*). Il semble, alors, évident que la distribution des formes adj-*pro* est contrainte précisément par la présence du *pro* sous-jacent, qui est connu pour ne pas accepter les contextes faibles. Ceci veut dire que nous avons raison de penser que les adj-*pro* ont une structure interne, générée par la syntaxe ; mais aussi que cette structure, et en particulier la présence de *pro* a des conséquences immédiates sur le sens et la distribution des Adj-*pro*.

Ce type de contrainte distributionnelle, et les différences avec les noms désadjectivaux présentés dans la section précédente, ne peuvent être expliqués que par une hypothèse qui donne un rôle majeur à la structure interne des unités lexicales et dans laquelle la distribution des items lexicaux dérive de leurs propriétés structurelles internes. En d'autres termes, la syntaxe interne de ces expressions complexes conditionne à la fois leur distribution et leur interprétation.

L'autre cas dans lequel la syntaxe conditionne le sens concerne l'interprétation des éléments réalisant les projections fonctionnelles définies

à travers la (dé)composition lexicale. Je discute ici le cas des AxParts ; projection fonctionnelle entrant en jeu dans l'analyse décompositionnelle des prépositions chez Svenonius (2008, 2011) (par exemple) – voir section 3.3 pour une présentation détaillée. L'étude des prépositions complexes pose la question de la lexicalisation des projections fonctionnelles et donc de l'interface et co-dépendance entre lexicale et structures syntaxiques. La question est pertinente, par exemple, lorsque l'on regarde le rôle joué par un élément au contenu descriptif fort, par exemple un nom, dans une position fonctionnelle dans laquelle il réalise un contenu grammatical plutôt que conceptuel/descriptif. Cette question est abordée dans l'article "*Body Part Nouns in Expressions of Location in French*" (2006) qui s'attache à comprendre les propriétés des éléments lexicaux d'origine nominale réalisant la projection AxPart. Les mots de partie du corps qui lexicalisent la projection fonctionnelle AxPart ont des propriétés différentes des noms dont on peut faire l'hypothèse qu'ils sont historiquement dérivés (ex. *pied, tête*) et qui peuvent apparaître, par exemple, en position argumentale avec un déterminant. Les noms de partie du corps qui réalisent la position AxPart dans des expressions comme *en tête de train, au pied de l'immeuble* ont perdu les propriétés basiques des noms, à savoir, la possibilité d'être modifiés par des adjectifs **en petite tête de train*, de se combiner avec un article démonstratif **en cette tête de train*, un numéral *en deux têtes de train* ou autre (voir aussi Svenonius (2008, 2011)). La seule exception notable est la possibilité de combiner avec l'article défini, qui est parfois même obligatoire (*au dos de la grange / *à dos de la grange*). L'obligation de l'article défini reste cependant mal comprise et demanderait une étude plus complète des définis faibles en français. Notons qu'en anglais les AxParts ne prennent jamais d'articles (*on top of the lake*).

Les noms de parties du corps en français expriment soit une partie fixe concrète, perceptible, comptable dans une relation partie-tout d'un objet (*le pied de la table*), soit une localisation projetée depuis un objet Ground (*au pied de la table*). L'élément grammatical qui participe à la construction de l'expression de localisation a un rôle essentiellement fonctionnel, c'est l'AxPart. L'interprétation de *pied* diffère en

fonction du type de projection qu’il réalise (N vs. AxPart). Ce résultat est attendu puisque qu’à chaque projection fonctionnelle est associée une valeur sémantique spécifique, qui entre en jeu dans le calcul de la valeur de vérité de l’énoncé. La façon dont la structure conditionne l’interprétation ici est en associant une valeur sémantique fixe à chaque projection, qui va déterminer comment un élément lexical réalisant une telle position va être interprété (par lui-même et dans la structure).

Pour finir, notons que les cas de polysémie présentés jusqu’à présent découlent en réalité de la co-existence de plusieurs représentations syntaxiques, associées à des représentations sémantiques variables, mais qui ne correspondent qu’à un seul et même épel (Spell-out). Les différences sémantiques entre ces formes polysémiques sont le reflet d’une structure interne elle aussi différente. De toute évidence, nous ne nous attendons pas à ce que tous les cas de polysémie des expressions complexes soient des cas d’ambiguïté structurelle. Pour illustrer ce point, je conclurai cette section en mentionnant le cas, tout à fait différent, du marqueur périphrastique de progressif “être en train de”, en français. Cette forme, traditionnellement décrite comme un marqueur de progressif, est en fait polysémique, comme nous le montrons dans l’article “*Deriving the readings of French être en train de*” (2015). En plus de l’usage ‘neutre’ de progressif, relativement restreint en français (en comparaison de l’anglais *-ing* : *it’s raining* / **il est en train de pleuvoir* / *il pleut*), nous montrons que *être en train de* a aussi un usage modal, dont on peut isoler au moins quatre lectures différentes. Le point important ici est que l’usage modal de *être en train de* présente un cas d’ambiguïté purement sémantique. Ce type d’ambiguïté, tout comme les autres formes de modalité non épistémique (càd, les cas de *root modality* ; Hacquard (2006)) n’a pas d’incidence directe sur les structures syntaxiques. La dérivation des lectures de *être en train de* étant purement sémantique, elle n’a pas d’incidence sur la structure interne de cette expression, sa distribution, ou encore la structure des expressions dans lesquelles elle apparaît. L’ambiguïté de type sémantique n’a pas un rôle grammatical à l’interface.

3. Thème II - Sens grammatical vs. conceptuel

Le deuxième thème de ma recherche concerne la distinction fondamentale qui émerge des approches décompositionnelles au lexique, entre *sens grammatical* et *sens conceptuel*. Par sens grammatical, comme nous l'avons vu plus haut, j'entends l'information sémantique qui est visible par la syntaxe et donc correspond à l'information grammaticalisée et accessible dans les processus (morpho)-syntaxiques. Cette information sémantique entre en jeu dans la composition à la fois structurelle et interprétationnelle d'une expression linguistique.

Il est connu, par ailleurs, que tout contenu sémantique n'est pas nécessairement visible par la syntaxe. En particulier, il existe un sens, qui semble être d'ordre conceptuel ou lexical, et qui ne joue pas de rôle dans les mécanismes de composition syntaxique. La grammaticalité, sus mentionnée, de *Colorless green ideas sleep furiously*, par exemple, repose précisément sur le fait que la syntaxe est indifférente au sens purement lexical des éléments qu'elle manipule. J'appellerai donc sens 'conceptuel', la composante de sens qui est extra-grammaticale, attachée au sens lexical des expressions linguistiques et par hypothèse non visible par la syntaxe.

L'implication sémantique des modèles syntaxiques de décomposition lexicale est qu'une division franche entre le sens conceptuel et le sens grammatical doit être opérée. Le premier est la composante conceptuelle associée aux divers éléments dans le lexique, ou selon les cadres, aux racines (Borer; 2005a; Marantz; 1997). Le lexique peut être vu comme une encyclopédie contenant des éléments avec un contenu descriptif riche, dont chaque unité renvoie à un élément de sens conceptuel dans le monde qui nous entoure (comme *chat* et *chien*, ou la racine de /*chat*/ et /*chien*/ et la racine /*nage-*/ présente dans *nager*, *nageur*, *nageoire*, etc.). Les éléments de sens de type lexical ne jouent pas de rôle dans la composition syntaxique.

L'autre composante de sens concerne des distinctions sémantiques fines, souvent plus abstraites, associées à un contenu descriptif plus faible, certainement moins perceptible, mais qui ont une importance

dans le calcul des conditions de vérité de la phrase. Il ne s'agit plus ici de sens lexical mais bien d'une contribution sémantique à valeur grammaticale, telle que celle associée à l'aspect, à la définitude nominale, à la projection *path* vs. *location*, pour ne citer que quelques exemples, tant au niveau phrastique qu'à celui de la dérivation du lexique. Ces distinctions, dont il est fait l'hypothèse qu'elles sont réalisées par des niveaux de projections fonctionnelles dédiés, sont grammaticales et participent au calcul de la valeur de vérité des énoncés. Ceci veut dire que le rôle interprétatif des projections fonctionnelles, qui grammaticalisent l'information sémantique de type grammatical, est testable linguistiquement ; alors que le sens des racines reste associé au système conceptuel, à notre connaissance encyclopédique et/ou du monde dans lequel nous vivons, et peut être parfois trouble.

Dans la majeure partie des analyses décompositionnelles cette distinction est faite, mais à un niveau généralement implicite. Un des rares efforts de définition se trouve chez Borer (2005a) qui propose une division fondamentale entre vocabulaire lexical et vocabulaire fonctionnel, que cette citation explicite :

“I believe this divide is a real one, and that it distinguishes between what is grammatically real –structures and formal properties of functional items, and what may be very real, but not grammatically so –properties of substantive vocabulary. The latter, I propose are creatures born of perception and conceptualization, representing intricate web of layers upon layers of a complex perceptual structure and emerging world knowledge, concepts which come to represent it, the reflection upon these concepts, and so on. Their properties, however characterized, are thus fundamentally not grammatical. That they can be so easily overridden by the grammar thus emerges from the fact that the grammar only cares about its own. It does not override grammatical properties. As for conceptual properties of words, we must ask whether they have grammatical reality altogether.” (Borer; 2005a, 10-11)

Cette hypothèse remet en question l'existence même de l'interface entre syntaxe et le module C-I telle que proposée par Chomsky (1995), et autres travaux ; puisque, par définition, le vocabulaire lexical, qui lui seul appartient au système conceptuel, est aussi celui qui est non grammatical. Les items lexicaux à proprement parlé nourrissent les opérations combinatoires de la syntaxe, mais n'y participent pas.

“Contrary to common assumptions (see especially Chomsky (1995) and subsequent literature), there is, in fact, no direct interface between the conceptual system and the grammar, in that properties of concepts do not feed directly into any determination of grammatical properties.”
(Borer; 2005a, 11)

On voit ainsi comment les règles de la syntaxe peuvent, à la fois, être définies indépendamment du sens, de la fonction et de l'usage, et être construites sur des distinctions sémantiques fines qui constituent la base du système fonctionnel de la grammaire d'une langue.

Si nous acceptons cette division entre les deux composantes de sens, la question se pose alors de comprendre comment les deux systèmes, grammatical vs. conceptuel, interagissent entre eux, et avec la syntaxe. Quelle est l'interface entre connaissance conceptuelle et connaissance grammaticale ? Quelle est la nature de l'information sémantique visible et non visible par la syntaxe ? Les questions qui se posent à l'interface syntaxe - sémantique requièrent que nous ayons une conception précise de ce qui est du ressort de la grammaire, et donc testable linguistiquement, et de ce qui ne l'est pas.

La théorie de l'interface sens - structure que je défends dans mes travaux repose sur les éléments de nature grammaticale exclusivement, puisque ce sont ceux-ci qui participent à la fonction combinatoire, laissant l'information de sens non grammaticale à part. Hors, cette zone de flou entre grammaire et cognition est problématique et est, je pense, au coeur de plusieurs domaines d'étude particulièrement difficiles à aborder et dont les propriétés linguistiques échappent encore aujourd'hui en grande partie à l'analyse. Cette section présente trois domaines empiriques distincts pour lesquels il est, me semble-t-il, essentiel de

distinguer la dimension grammaticale (et donc linguistique) de la dimension conceptuelle afin de parvenir à une caractérisation raisonnée des données et une théorie des phénomènes en question. Ces domaines concernent les noms d'événement, les dispositions et les prépositions complexes de cause et de temps.

3.1. Evénements grammaticaux vs. conceptuels dans les noms d'événement. Dans la nominalisation dite 'événementielle' (*complex event nominals* (CEN) de Grimshaw (1990), *argument structure nominals* (AS-Ns) de Borer (2005b)), si l'événement est lié à la présence d'une projection verbale sous-jacente, d'où vient l'événement dans un nom comme 'réunion' qui bien qu'il fasse référence à un événement (par ex. *la réunion a duré 2 heures*) n'est pas formé sur une base verbale? Ces noms, appelés *simple event nominals* (SEN) dans Grimshaw (1990) parce qu'ils ne présentent pas les propriétés de structure argumentale des CEN, ont posé et continuent à poser un problème pour les théories décompositionnelles qui placent la contribution sémantique de l'événement au niveau de la projection fonctionnelle verbale.

Il n'existe, de fait, aucun consensus parmi les linguistes qui se sont intéressés aux noms d'événement, sur ce qu'est un nom 'événementiel'. Le premier problème concerne la dichotomie traditionnelle entre CEN et SEN. Si l'on s'appuie sur le critère lexical, ces noms forment une classe homogène de noms qui dénotent des événements. Si l'on s'appuie sur leurs propriétés grammaticales, telles que traditionnellement acceptées dans la littérature depuis Grimshaw (1990), ces noms n'ont aucunes propriétés communes ni concernant la réalisation de la structure argumentale, ni concernant la compatibilité avec des modificateurs d'événements. En réalité, à part le fait que les SEN renvoient, dans leur sens lexical, à des événements, ils n'ont aucune propriété grammaticale qui ne signale la présence d'un événement (grammatical) sous-jacent, sauf une propriété d'interval temporel (*Le film dure 3 heures.*).

Le deuxième problème concerne la disparité surprenante des résultats des tests de l'événement interne dans les noms d'événement. Par exemple, alors que les SEN admettent des modificateurs de durée temporelle (*La*

réunion a duré 2 heures), ils ne peuvent pas être modifiés par des modificateurs aspectuels comme *en/pendant x temps* : **la réunion en/pendant 2 heures*. De même que les SEN peuvent entrer dans la construction *pendant le N* : *pendant la réunion / la pièce / le film*. Ces propriétés de durée temporelle les distinguent clairement des noms non-événementiels comme *table, chaise, enfant* : **La table dure 2 heures / *pendant la table*. Mais pourquoi la durée et la modification aspectuelle ne vont-elles pas de paire pour tester les SEN ?

L'article "*Event related Nominalizations*" (2013) soutient l'hypothèse que l'événementialité dans les nominalisations peut être de deux ordres : l'un grammatical, l'autre conceptuel. Dans le cadre de la sémantique des types, nous acceptons la différence de type sémantique commune entre individus (type *e*) et événements (type *v*). Un événement grammatical doit être hérité de la structure interne du nom, de la même façon que pour les verbes. De fait, il est donc impossible de construire un nom d'événement (grammatical) sans une base verbale (ou plus largement prédicative, si l'on inclut les noms désadjectivaux, voir section 2.4). Cet événement grammatical est celui qui est associé à une position structurelle dédiée, AspP, voiceP, ou autre selon les cadres. Les nominalisations déverbales qui ont un événement grammatical doivent donc avoir dans leur représentation interne une projection associée à une variable de type *v*.

Pour ce qui est des noms de type *e*, ils dénotent de véritables individus/entités dans le monde réel (*Paul, John, table, pommes*, etc.). S'il se trouve que cette entité renvoie à un événement conceptuellement, nous obtenons bien une lecture d'événement, mais pas de propriétés grammaticales de l'événement. Ainsi, *le mariage de Paul et John* renvoie à un événement conceptuel qui peut avoir des propriétés d'intervalle spécifiques (il a eu lieu à *x* heures ; il a duré *x* jours) mais pas de propriétés d'événement grammaticales (*se réunir pendant 3 heures / *la réunion pendant 3 heures*).

Ces résultats mettent en évidence deux niveaux d'interface distincts : un premier niveau grammatical, qui est l'interface entre la structure, et plus précisément les projections fonctionnelles, et le sens

qui leur est attribué; et un deuxième niveau d'interface entre une entrée lexicale et un sens conceptuel (le sens d'événement pour le mot 'événement', par exemple, qui n'est pas un CEN). L'analyse décompositional / structurelle régit les relations d'interface entre structure et sens grammatical; elle attribue donc bien une position particulière à l'événement de type *v*, associé à une projection fonctionnelle dédiée de type Aspect, Voice, Pred, par exemple, mais pas à l'événement de type *e* qui occupe la même position que les autres individus de type *e*. La grammaire ne voit et ne traite que des différences sémantiques qui comptent pour le calcul de la valeur de vérité, et non pas conceptuelles.

Cette analyse permet d'expliquer simplement les disparités obtenues dans les résultats des tests de l'événementialité dans les noms à travers la littérature. Nous sommes, de toute évidence, menés à distinguer deux types de tests : les tests de l'événement grammatical et les test de l'événement conceptuel. Nombreux travaux récents, en particulier Haas et al. (2008), introduisent une ambiguïté en ce qu'ils testent l'événement conceptuel et en déduisent l'existence d'un événement grammatical (associé à une base verbale dynamique et agentive). Hors, il s'avère que les tests de durée et d'ancrage temporel, comme *un N de x temps, le N en cours, x temps de N*, ne testent pas l'événement grammatical. Les noms qui sont conceptuellement des événements, même si sémantiquement ce sont des éléments de type *e*, peuvent prendre des durées, des ancrages temporels, qu'ils soient ou non dérivés de verbes : *une partie d'échec de 3 heures, la partie d'échec en cours, 3 heures de partie d'échec*. Il n'y a aucune raison de penser que *partie d'échec* soit dérivée d'un verbe dont il hériterait des propriétés événementielles et de la structure argumentale. Ce point est confirmé par l'impossibilité de réaliser des arguments dans ce cas : **la partie d'échec par Jean*.

Si Haas et al. (2008), en particulier, ont mis en évidence l'existence de classes sémantiques de nominalisations (par ex. les noms associés à des bases statives comme *croyance, préférence* ne passent pas les tests d'ancrage temporel ou de durée : **une croyance de 2 heures, *2 heures de croyance, *la croyance a duré 2 heures*) une telle classification, basée

essentiellement sur les caractéristiques sémantiques (conceptuelles) des bases, ignore les propriétés syntaxiques de ces noms, qui sont pertinentes pour expliquer leur comportement en syntaxe. Une fois encore la grammaire ne voit et n'a accès qu'aux propriétés sémantiques grammaticales et n'interagit pas avec le système conceptuel. Bien évidemment, les propriétés grammaticales et conceptuelles des noms d'événements peuvent parfois se recouper, spécifiquement dans le cas des CEN, ce qui donne lieu à l'ambiguïté et la complexité des résultats et des discussions dans la littérature.

Du point de vue de la typologie plus générale des noms, nous nous attendons à trouver des noms d'entité qui peuvent dénoter des objets, des individus, et même des événements (dont la source est conceptuelle : l'entité *e* qui se trouve être interprétée comme un événement) ; alors que les noms d'événement qui comprennent une projection fonctionnelle de nature verbale qui introduit un événement grammatical ne peut donner lieu qu'à une lecture d'événement complexe. C'est exactement ce que nous trouvons dans les langues étudiées et dans les cas étudiés de noms complexes d'événements et d'individus.

3.2. Nominalisations, instruments, dispositions. Les dispositions présentent un problème dont la nature est assez similaire à celui des noms d'événement. Comme nous l'avons montré dans la section 2.3, les dispositions exprimées par les nominalisations du type *chauffeur de taxi* et *taxi-driver* peuvent avoir une source structurelle (dans le cas de *chauffeur de taxi*, en français) ou non (dans le cas de *taxi-driver*, en anglais). Dans le premier cas, la sémantique de disposition est le résultat d'une quantification par un opérateur de généralité ; dans le second cas, celui des formes composées synthétiques de l'anglais, il n'y a pas de source structurelle pour le sens dispositionnel, dont l'origine ne peut pas être associée à aucune configuration particulière ou projection verbale / événementielle spécifique.

Les noms d'instruments en *-eur/-er*, qui ne sont jamais dérivés syntaxiquement de bases verbales (Roy and Soare; 2011), ont aussi

généralement un sens de disposition, que ce soit en français ou en anglais. *Un mixeur, une tondeuse, un ventilateur* sont des instruments qui ont la disposition de mixer, tondre, ventiler, sans pour autant qu'ils le fassent nécessairement. Les instruments sont dispositionnels de façon inhérente, c'est à dire en l'absence de projection grammaticale (verbale ou de quantification générique), mais un instrument à une disposition à être utilisé dans un but particulier.

“*Grammatical and conceptual knowledge of dispositions in the interpretation of -er nominals*” (soumis), traite de la question de la sémantique dispositionnelle à travers l'étude expérimentale des noms en *-er* agents et instruments de l'anglais. L'anglais possède des formations nominales en *-er* qui peuvent être agentives (*driver, swimmer, reader*) et des formations qui dénotent des instruments (*blender, recorder, stapler*). De plus, l'anglais a aussi grammaticalisé une différence entre formes en *-er* phrastiques (*picker of apples*) vs. composées (*apple-picker*). La correspondance entre forme morphologie et sens agentif est seulement partielle, en ce sens que les noms en *-er* composés peuvent être interprétés comme des agents ou des instruments; alors que la forme phrastique doit être agentive (Rappaport Hovav and Levin; 1992; Van Hout and Roeper; 1998). Nous sommes donc en présence d'un système qui distingue grammaticalement deux formes de nominalisations, alors que conceptuellement un chevauchement existe entre agents et instruments dans la forme composée.

Les noms en *-er* de l'anglais sont donc un objet d'étude intéressant pour mieux comprendre la distinction entre sens grammatical et sens conceptuel, et le comportement linguistique des locuteurs devant ces deux types de source de l'information.

L'interprétation agent / instrument des noms en *-er* a été étudiée par van Hout and Bos (2004), un des rares travaux expérimentaux à traiter de l'interprétation des noms en *-er*. Ils se sont demandés si les adultes et les enfants restreignent systématiquement les noms en *-er* phrastiques aux agents, comme la structure interne de ces noms le requiert; et s'il existe une variation dans ce domaine entre les deux groupes de population (enfants vs. adultes). Les résultats de l'étude,

basée sur des tâches de sélection d'image et de jugement de vérité, montrent que, de façon surprenante, bien qu'à la fois les enfants et les adultes aient une préférence pour l'agent avec les formes phrastiques, celle-ci est visible seulement dans 71% des cas pour les enfants, et 88% pour les adultes. La question qui se pose alors est de comprendre pourquoi les sujets choisissent l'instrument dans des cas qui ne peuvent, dans la description linguistique, référer qu'à des agents. (Pour rappel, *a catcher of flies*, par exemple, ne peut pas référer à un instrument). Dans une deuxième expérience, les enfants acceptaient à la fois les agents et les instruments, sans discrimination dans les deux conditions linguistiques (forme phrastique vs. composée).

On ne peut pas conclure de ces expériences, bien que van Hout & Bos soient portés vers cette conclusion, que les enfants de 5 ans ne sont pas encore capables d'utiliser correctement l'information structurelle pour associer les formes phrastiques aux agents; ou que leurs représentations des formes phrastiques et composées est la même. En effet, les résultats des adultes, qui eux ont l'information structurelle nécessaire, suggère plutôt que quelque chose dans le protocole de l'expérience elle-même donne lieu au choix des instruments dans la condition qui n'accepte que des agents normalement. Il semble, plutôt, qu'il faille prendre en considération le sens des dispositions pour comprendre le comportement de ces sujets.

Prenant comme point de départ l'étude de van Hout & Bos, nous avons proposé trois expériences dans lesquelles nous avons voulu, d'une part contrôler pour le sens de disposition dans les deux conditions; et d'autre part, isoler les deux sources possibles du sens de disposition: l'information grammaticale (associée à la forme composée vs. phrastique), et l'information conceptuelle (pour les instruments vs. agents)

Nos expériences confirment, tout d'abord, les résultats de van Hout & Bos concernant la préférence pour l'agent dans la condition phrastique pour les adultes, mais à un taux éloigné du taux idéalisé; alors que les enfants ne montrent pas de préférence dans aucune des deux conditions. Nous en concluons que quelque chose extérieur à la forme grammaticale informe les jugements des sujets. Notre hypothèse est

que les participants utilisent parfois la source conceptuelle de sens dispositionnel (connaissance du monde réel; disponible avec les instruments), pour former leurs jugements, y compris dans les cas où seule la source grammaticale devrait être prise en compte. Nous avons, ensuite, testé cette hypothèse en réduisant progressivement, dans une série de trois tests, l'information conceptuelle, pour ne garder que l'information grammaticale. Nous avons, pour cela, utilisé des tâches de définition, sans stimuli visuel, et des non-mots.

La conclusion principale de ces expériences est que les adultes (et les enfants) sont sensibles à la différence structurelle entre forme phrastique et forme composée; mais que leurs jugements ne sont pas toujours formés sur la base seule de l'information grammaticale. En particulier, l'information de type conceptuelle interfère parfois dans la formation des jugements. Plus l'information de type conceptuelle a été réduite, plus le sujet s'est attaché à l'information structurelle pour former ses jugements.

Ces résultats mettent clairement en évidence deux sources d'information sémantique, l'une liée à la structure, et l'autre liée à notre connaissance du monde. Nous spéculons, que la raison pour laquelle l'information conceptuelle peut, parfois, prendre le pas sur l'information grammaticale, provient du fait que l'accès à la première est un mécanisme automatique, alors que l'accès à la seconde inclut au moins un mécanisme contrôlé.

Il devient très clair que le jugement 'du linguiste', c'est-à-dire, le jugement qui prédit 100% d'agents pour les formes phrastiques, est un jugement qui se caractérise par le fait qu'il est informé exclusivement par la structure, laissant de côté toute information de type conceptuelle. Cet exercice n'est pas automatique chez une partie significative des locuteurs que nous avons testés, cependant. Il n'est même pas certain qu'ils aient conscience de deux sources possibles d'information.

Pour finir, cette étude soulève la question de savoir si le sens conceptuel, qui interfère parfois avec le sens grammatical, entre en conflit avec l'hypothèse d'une sémantique interprétative des structures de la syntaxe. La réponse est non : la sémantique qui est interprétative de la

syntaxe est la forme logique ; elle repose sur l'information structurelle et l'information sémantique grammaticale. La sémantique qui interfère est celle d'ordre conceptuel. Ce qui veut dire que la distinction entre les deux sources de sens doit être explicite, puisque, nous concluons, tout comme Borer, qu'il n'y a pas d'interface entre le système conceptuel et la grammaire.

3.3. Espace, temps et causalité. Le dernier exemple qui illustre l'importance de la question de l'interface entre sens grammatical et sens conceptuel, concerne la structure interne et l'interprétation des prépositions complexes du français. Dans une série de travaux récents qui reposent sur une analyse décompositionnelle de la structure interne des prépositions, Svenonius (2008, 2011) (parmi de nombreux autres travaux) a montré de façon convaincante que les prépositions sont décomposables en trois projections fonctionnelles distinctes : PLACE, qui exprime un lieu, AXPART, qui exprime une partie axiale dans une relation partie-tout, et une tête casuelle, *de, of* nommée K (pour Cas). Cette analyse, motivée sur une large base empirique et des langues variées, s'applique aussi bien aux prépositions simples (*in, on, out*) qu'aux prépositions complexes dans lesquelles les trois têtes fonctionnelles sont réalisées par des morphèmes distincts (*à côté de, in front of*). Il est fait l'hypothèse que les prépositions simples sont l'épel d'une structure complexe qui se décompose en trois composants sémantiques et grammaticaux distincts qui peuvent être ou ne pas être combinés ensemble.

Les notions de Place et de AxPART sont grammaticalisées, et ordonnées ; ainsi que la marque casuelle K. Une telle analyse prédit que la partie interne de la préposition complexe identifiera une partie axiale (*front, top ; avant, arrière*), alors que la partie externe déterminera des notions comme contact / proximité / projection (*in, on*) : *inPlace frontPartieAxiale ofK*.

Le cadre développé par Svenonius repose sur l'étude détaillée des prépositions spatiales. Or nous nous sommes interrogés sur la possibilité d'une telle analyse étendue à d'autres domaines sémantiques que

l'expression de l'espace. En particulier, nous nous sommes interrogés sur la pertinence d'un tel modèle appliqué aux prépositions temporelles (par ex. *autour de (minuit)*) et causales (par ex. *à cause de*). Est-ce que ces prépositions peuvent être analysées par la tripartition Place / AxPart / K ? Et dans ce cas, d'où provient la sémantique temporelle et causale ? Ou bien est-ce que les dimensions sémantiques de temps / espace / cause doivent aussi être encodées grammaticalement dans la structure interne des prépositions en question ?

Dans l'article "*Complex Prepositions*" (2009) nous défendons l'hypothèse que l'on peut identifier des traits communs aux prépositions complexes spatiales mais aussi temporelles et causales en français malgré leur apparente hétérogénéité. Alors que les notions sémantiques de Place et AxPart reposent à l'origine sur des notions spatiales (lieu, vecteur axial), l'extension de ces notions au domaine temporel et causal est possible au niveau pertinent d'abstraction sur la ligne du temps, ou dans une chaîne causale (Talmy; 2000).

Dans le premier cas, la seule différence tient au fait que le temps est une dimension linéaire (avant-après) qui n'a pas la dimension ternaire de l'espace (horizontal, vertical, profondeur). Cette différence mise à part, les prépositions temporelles complexes peuvent être analysées comme les prépositions spatiales, alors même qu'elles expriment un ensemble de points sur la ligne du temps plutôt que dans l'espace. Par exemple, *autour de* dans son sens spatial sélectionne un ensemble de points dans un cercle autour de l'objet Ground (*autour de la place*), *autour de* dans son sens temporel ne sélectionne que les points directement avant et après la région temporelle exprimée par le Ground (*autour de minuit*).

La question se pose alors de déterminer si les prépositions causales complexes peuvent aussi être analysées par la même décomposition tripartite. Nous soutenons que cette analyse est possible, et même nécessaire, au niveau pertinent d'abstraction : si, suivant Talmy (2000) nous faisons l'hypothèse que dans la relation causale, le Ground exprime la cause, et la Figure la conséquence, les trois composantes de sens émergent de façon systématique. Pour les prépositions causales, la

relation établie par K est entre événements et événements causés : par exemple, *[Paul a annulé son voyage]_{Figure} à cause de [Marie]_{Ground}*. Toutes sortes de relations causales peuvent être exprimées par des prépositions différentes (conséquence ; raison ; concession, par exemple), de la même façon que les prépositions spatiales expriment une variété de relations spatiales.

Ainsi, il semble évident que la relation causale et la relation temporelle, peuvent être ramenées au jeu d'interaction entre les trois projections fonctionnelles Place / AxPart / K, avec les corrélats sémantiques associés. Le système ne justifie pas l'hypothèse de projections fonctionnelles spécifiques ni dans un cas ni dans l'autre. Si la place et le vecteur axial sont des notions sémantiques qui jouent un rôle essentiel dans la grammaire des prépositions, la même chose ne peut pas être conclue de la notion d'espace vs. temps vs. cause, à laquelle la syntaxe est dans ce cas indifférent. Il en découle que la distinction temps / espace / cause n'est pas associée à une ou plusieurs projections fonctionnelles dédiées, mais appartient ici au système conceptuel. Ce système gère le domaine d'application (conceptuel) des prépositions, mais ni leur structure interne ni l'interface entre structure interne et interprétation.

Il est entendu qu'il ne s'agit pas de dire que le temps et la causalité ne sont jamais grammaticalisés dans le langage. Nous savons, par ailleurs, que le temps est exprimé, comme l'aspect, par des projections dédiées au niveau phrastique ; et la relation de causalité peut parfois correspondre pas à des configurations structurelles spécifiques (projection d'une tête CAUSE, par exemple). Mais de telles notions de sens abstraites ne sont pas systématiquement associées à des projections fonctionnelles dans la structure des prépositions complexes : ni la distribution, ni la forme, ni l'interprétation des prépositions ne motivent l'hypothèse de projections fonctionnelles dédiées pour exprimer la relation de temporalité / espace / causalité dans la décomposition de P. Il n'est donc pas suffisant d'avoir l'intuition du temps ou de la causalité pour en faire une unité structurelle : de telles notions sont ou ne sont pas grammaticales selon les contextes et donc visibles par la syntaxe.

4. Thème III - Emergence du langage

Ce troisième volet de mes recherches s'intéresse à l'interface syntaxe - sémantique dans une perspective radicalement différente qui s'attache à étudier comment l'interaction entre la structure et le sens nous aide à comprendre le développement de la grammaire chez l'enfant.

Dans le développement précoce du langage (*early child language*), deux étapes sont communément distinguées : le stade des 1-mot, dans lequel les productions sont des énoncés holophrastiques qui reposent sur une expression linguistique unique (par exemple, *up*; *no*; *more*), puis le stade des 2-mots, dans lequel l'enfant produit des énoncés qui combinent plusieurs éléments linguistiques entre eux. Les productions peuvent ensuite s'étendre à des productions de tailles variées. La transition entre les mots uniques et les phrases reste le sujet de nombreuses controverses. Bien qu'il y ait un accord sur le fait que, lorsque l'enfant commence à produire des énoncés de 2 mots ou plus, il doit logiquement combiner des unités linguistiques, il n'y a aucun consensus sur la nature de ces combinaisons.

La question principale est de savoir si, et dans quelle mesure, les combinaisons précoces des enfants sont générées par un système combinatoire grammatical ou non. L'hypothèse générativiste est que ces combinaisons sont le fruit de l'application d'opérations syntaxiques et sémantiques. La grammaire de l'enfant, tout comme celle de l'adulte, repose sur l'opération Merge, la recursion, et les règles combinatoires sémantiques qui peuvent y être associées. Cette thèse, qui accepte l'existence d'une grammaire interne chez l'enfant comme l'adulte, s'oppose, aux hypothèses constructionnistes largement répandues dans la littérature en psychologie développementale sous l'influence des travaux de Tomasello (1992, 2000, 2004, 2005), particulièrement. L'approche constructionniste, comme je l'ai déjà dit, rejette l'idée que la grammaire repose sur une syntaxe, et considère plutôt que le langage est composé de constructions, c'est-à-dire de paires structure / sens inanalysables. L'émergence du langage dans l'approche constructionniste revient à la

mémorisation par l'enfant d'un ensemble grandissant de constructions de tailles diverses avec des sens et des usages divers.

Cette première question s'accompagne d'une autre question d'importance concernant le rôle de l'input dans le développement du langage. Les approches dites *usage-based* considèrent que l'enfant construit sa grammaire sur la base de l'input seul. On oppose souvent, sur ce point, mais de façon je pense erronée, les approches *usage-based* et générativistes. A l'approche générativiste est généralement associée l'hypothèse de l'innéité du langage ; qui est souvent comprise, à tort, comme rejetant le rôle de l'input. Or, il est important de souligner que les générativistes eux-même reconnaissent un rôle à l'input. Il y a plusieurs raisons pour cela. D'une part, les productions enfantines présentent certaines limitations, comparées à la grammaire adulte, au niveau de la composition syntaxique, de l'interprétation, ou même de l'usage du lexique. Ces limitations peuvent avoir des sources variées, mais personne ne veut dire que l'input ne joue pas un rôle dans le développement de la grammaire vers un système plus similaire à celui de l'adulte. D'autre part, toute théorie du développement du langage doit expliquer pourquoi acquérir une langue A n'est pas la même chose qu'acquérir une langue B ; en particulier dans une approche qui accepte la thèse de la grammaire universelle. Il est tout à fait évident que personne ne veut remettre en cause le rôle de l'input dans le développement d'une grammaire spécifique différente des autres grammaires qui existent par ailleurs. Plus récemment, le rôle de l'input a aussi été mis en évidence par les travaux en *statistical learning* de Yang (2004), par exemple. Mais la question qui subsiste est de savoir combien l'input joue un rôle et comment.

Ce qui distingue, néanmoins, les approches *usage-based* et générativistes c'est leur position sur l'innéité du langage. Pour les constructionnistes, puisque la grammaire repose sur des constructions mémorisées apprises sur la base de l'input, le caractère inné du langage est quasi-inexistant. Pour les générativistes, davantage de la grammaire est inné, bien qu'il y ait des désaccords possibles sur le montant exact de ce qui est de l'ordre de l'inné. Des positions variables sur la *full competence*,

et les hypothèses de *maturation*, et de *truncation*, par exemple, en sont une illustration.

Par ailleurs, un autre aspect du développement du langage qui distingue les approches constructionnistes / usage-based et générativistes, concerne l'abstraction à partir de l'input. Qu'est-ce que l'enfant généralise et comment ? Cette question présente un problème conceptuel pour les approches constructionnistes. Puisque l'enfant mémorise des constructions, dont il connaît le sens et l'usage, qu'est-ce que l'enfant peut généraliser ? et comment cette généralisation se formalise-t-elle ? Par exemple, si l'enfant généralise une construction de la transitivité à partir des différentes constructions transitives qu'il a acquis sur la base de l'input, comment cette généralisation peut-elle avoir lieu ? Bien que les théories usage-based admettent qu'à un certain stade il y a généralisation, ils ne peuvent expliquer ni comment ni pourquoi. Par opposition, la généralisation est triviale dans l'hypothèse générativiste. De l'hypothèse générativiste découle directement l'abstraction, c.à.d. généralisation à tous les items d'un groupe ou classe particulière. Ce qui permet la généralisation peut être un facteur de maturité, une certaine compréhension dépendante de facteurs externes, les catégories, ou bien un nombre (pertinent) d'items.

Les quatre questions présentées, bien que reliées pour expliquer l'émergence et le développement du langage, sont toutefois relativement indépendantes. La position de Tomasello est une position *usage-based*, qui repose sur une grammaire de constructions, qui réfute l'innéité et la *full competence*, mais qui est en mal de répondre à la question de l'abstraction. Tomasello critique fortement l'hypothèse de *full competence* – avec ces variantes de maturation, principes et paramètres, lexicaliste ou autre – sur la base, essentiellement de l'impossibilité d'expliquer que l'enfant acquière le langage sur la base d'un ensemble limité d'items lexicaux avec une machinerie générative excessivement puissante. Pour cela, il pense les analyses *usage-based* beaucoup plus explicatives. Tomasello est trop rapide, il me semble, à conclure que l'acquisition item par item n'est pas compatible avec une grammaire générative interne. Les deux questions ne sont bien évidemment pas identiques : il s'agit

de se demander d'une part si le langage de l'enfant (et le langage en général) est basé sur des représentations formées par la syntaxe / grammaire interne ; et d'autre part si l'hypothèse générative présuppose que l'enfant sait tout utiliser tout de suite.

La thèse que nous développons dans l'article "*The emergence of Merge and Recursion as generative processes in the transition from single words to sentences*" (soumis) repose précisément sur l'hypothèse générativiste mais tout en donnant un rôle majeur à l'input. Ce que nous pensons inné sont les opérations combinatoires syntaxiques (Merge) et sémantiques de base. Toutefois, l'application de Merge dans des contextes particuliers n'est pas inné. Merge et l'application recursive de Merge se développent, et ce développement peut varier dans sa forme et dans sa course par individu. Par développement nous entendons l'extension des domaines d'application de Merge tant lexicaux (extension de l'inventaire lexical) que structurels (position sujet vs. objet, par ex.). L'acquisition se fait item-par-item au début, puis est généralisée, à partir d'un certain seuil, à des positions variées et des éléments lexicaux variés.

La prédominance actuelle des hypothèses usage-based constructionnistes dans l'émergence du langage précoce est indéniable. Elle tient, il me semble, à plusieurs facteurs qu'il convient d'éclairer. Historiquement, tout d'abord, le domaine de l'émergence et du développement précoce du langage, en particulier la transition des mots simples vers les phrases, a été largement abandonné aux psychologues et psycholinguistes structuralistes / fonctionnalistes dès la fin des années 80. Après des travaux fondateurs comme celui de Brown (1973), les tentatives d'expliquer le développement précoce du langage à travers l'étude des productions précoces dans le cadre générativiste ont été compliquées, comme Ninio (2006, 2011) le remarque à très juste titre, par les théories transformationnelles (Chomsky; 1957, 1965), puis *Government and Binding* (Chomsky; 1982), qui présentaient des règles excessivement compliquées. Ces cadres ont amené une grande partie de la psycholinguistique à rejeter les positions de Chomsky sur la grammaire interne. Pour une part, ce rejet tient purement et simplement d'un manque

de compréhension de la théorie générativiste. Pour une autre part, il tient aussi d'une inadéquation perçue entre la complexité de la théorie générativiste et des processus qui devaient être étudiés en relation avec les productions relativement simples de l'enfant. Cette inadéquation a mené nombre de chercheurs du développement à remettre en question l'utilité du modèle de la grammaire générative transformationnelle, basé sur la langue adulte, pour comprendre la langue de l'enfant. Par ailleurs, ou peut-être comme un effet indirect de la complexité des théories transformationnelles, les linguistes générativistes qui travaillent en acquisition ont aussi largement abandonné l'étude générale de la transition vers les phrases, à l'exception de Roeper (2007, 2011), se concentrant essentiellement sur l'acquisition de phénomènes grammaticaux précis en tant qu'ils éclairent une théorie plus générale de l'acquisition du langage.

Hors, les développements récents de la syntaxe, avec l'introduction du *Minimalist Program*, présentent une théorie ontologiquement plus simple de la grammaire adulte que les modèles générativistes précédents. Le *Minimalist Program* a réduit les règles combinatoires syntaxiques à une seule et unique opération *Merge*, pour *narrow syntax*, ce qui a mené à une simplification évidente des systèmes transformationnels précédents. Il est possible à présent de se réappropriier avec cet outil les questions du développement précoce du langage.

Dans notre travail, nous étudions l'applicabilité de la théorie générativiste actuelle à l'étude du développement précoce du langage en étudiant les combinaisons qui impliquent un prédicat et au moins un argument. Nous montrons, en particulier, que l'hypothèse, basée sur cette approche, que l'enfant développe une grammaire générative combinatoire dès le début de l'émergence du langage, peut expliquer les types de productions attestés, la systématisme des 'erreurs' (apparentes) dans les productions enfantines en comparaison avec la langue adulte et la variation individuelle dans ce domaine.

Nous étudions des données de production afin d'isoler et d'étudier les caractères systématiques et individuels de l'application de *merge* et de la recursion. La thèse centrale que nous développons est que l'étude des

relations syntaxiques et sémantique entre unités linguistiques utilisées en production donne des informations importantes et jusqu'à présent jamais discutées sur le développement de la fonction combinatoire du langage. Notre analyse s'appuie sur la conception 'forte' de l'interface syntaxe - sémantique défendue à travers mes travaux, qui nous permet de définir des combinaisons syntaxiques à partir des combinaisons sémantiques plausibles.

Nous montrons que les productions langagières des enfants étudiés ne peuvent être analysées que comme des produits d'opérations combinatoires, et non pas, des constructions mémorisées, allant donc à l'encontre des thèses constructionnistes largement répandues. Notre argument repose sur deux faits : la créativité et la systémativité de l'application de Merge et de la récursivité par l'enfant, et la variation individuelle dans ce domaine. Par créativité, nous entendons des productions qui sont le produit d'une application de Merge qui n'a pas pu être modélisée dans l'input. (Par exemple, *truck Nanna she made that*, Rick, 22 mois ; *now look at pig one more mommy*, Alice, 21 mois).

A la différence de Tomasello et autres approches usage-based, nous défendons l'idée que l'on peut analyser le langage des enfants sur la base, à la fois, de leurs productions attestées *et* de la théorie de la grammaire cible de l'adulte. Contrairement aux analyses générativistes antérieures, les composantes / éléments de théorie adulte que nous utilisons sont si basiques qu'ils autorisent la variation inter-individuelle, la variation entre enfants et adultes que nous observons (les structures des enfants ne doivent pas nécessairement ressembler à celles des adultes) et que celles-ci changent dans la course du développement.

Il apparait clairement dans cette étude que ce qui dirige l'enfant dans le développement de l'application de Merge puis la récursivité sont les éléments fonctionnels dans la langue. Nous nous attendons à ce que ce soit universellement les éléments fonctionnels qui mènent l'enfant vers l'entrée dans la syntaxe (hiérarchique, structure asymétrique). Nous isolons dans notre travail le rôle essentiel que jouent les pronoms dans la réalisation des positions argumentales en anglais. Il n'est pas attendu, cependant, que les éléments fonctionnels pertinents dans

une grammaire donnée soient toujours des éléments prononimaux. Par exemple, une revue superficielle des productions précoces d'une enfant francophone semble indiquer que les *fillers* vont jouer un rôle prédominant qu'il conviendrait de comprendre dans des travaux à venir.

Nous adoptons dans notre analyse une vue la plus conservative possible qui veut qu'une position syntaxique ne soit réalisée structurellement que si un élément lexical est visible dans cette position en production. En d'autres termes, nous ne faisons pas l'hypothèse de projections nulles. Ce choix théorique peut paraître risqué car il est évident, et nous le savons par ailleurs par les données de compréhension (voir, par exemple, Hirsh-Pasek and Golinkoff (2006), pour ne citer qu'un exemple), que la grammaire interne de l'enfant est plus complexe que ce que nous décrivons. Cependant, et c'est un autre des résultats remarquable de ce travail, l'approche la plus conservative possible (à même de satisfaire ceux qui rejettent tout idée de grammaire interne, non-visible en surface) est suffisante pour montrer que le langage est génératif (application de la fonction combinatoire syntaxique et sémantique). En d'autres termes, il est suffisant de regarder les modes de combinaisons des unités de surface pour montrer que les enfants manipulent une grammaire combinatoire. Une grammaire plus complexe le montrerait encore plus, mais le résultat est déjà visible.

Le lien entre la production, que nous décrivons, et la compréhension, dont nous acceptons qu'elle diffère, doit cependant être expliciter. Ce problème n'est pas lié exclusivement à la syntaxe et se trouve aussi au niveau phonologique / phonémique (la perception discriminatoire des phonèmes précède la réalisation phonologique en production) ou lexical (la compréhension précède la production des unités lexicales). Mais que se passe-t-il avec la syntaxe? Nous voulons suggérer qu'il existe différents modes d'accès à la syntaxe en compréhension et en production. Passer du langage, ce que l'on entend, vers un contenu conceptuel peut être relativement simple et facile. La compréhension est, dans ce sens, une tâche automatique. Ce mode d'accès est celui

qui entre en jeu, par exemple, dans les expériences sur les noms en *-er* présentées plus tôt.

Par contre, passer du contenu conceptuel (ce que l'on veut exprimer) vers la grammaire (les structures) peut être plus difficile. Il s'agit d'un processus manifestement différent ; et nous voulons spéculer que ce n'est pas suffisant d'avoir une syntaxe et une idée conceptuelle de ce que l'on veut dire pour être capable de former des phrases complexes. Une autre étape est nécessaire. Cette étape est précisément la sémantique ; c'est-à-dire les différentes règles de composition sémantique qui vont de paire avec les structures syntaxiques.

Nous pouvons alors aussi spéculer, que ce qui se passe dans les décalages de compréhension / production en acquisition L2, contrairement à la langue maternelle, est lié à l'accès à un savoir conceptuel et à la sémantique mais un accès différent au module de la syntaxe.

La production et la compréhension dépendent donc entièrement de notre conception de l'interface syntaxe - sémantique. Ceci suggère que nous avons raison de vouloir identifier trois aspects distincts du langage : la syntaxe, la sémantique (grammaticale), et le niveau conceptuel. Mais aussi que la fonction combinatoire du langage repose sur deux modules combinatoires (syntaxe et sémantique) et l'un ne peut pas fonctionner sans l'autre.

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6. Liste des articles

Les articles recueillis dans ce mémoire apparaissent dans l'ordre dans lequel ils sont mentionnés dans l'introduction.

1. Roy, I. & E. Soare (2011). "Nominalizations : new insights and theoretical implications". *Recherches Linguistiques de Vincennes*, 40, Presses Universitaires de Vincennes, Saint Denis, 7-23.
2. Roy, I. & E. Soare (2011). "L'enquêteur, le surveillant et le détenu : les noms déverbaux de participants aux événements, lectures événementielles et structure argumentale". *Lexique*, 20, "Nouveaux aspects sur les nominalisations", Marín, R. et F. Villoing (eds.), Presses Universitaires du Septentrion, Villeneuve d'Ascq, 207-231.
3. Roy, I. & E. Soare (2014). "On the internal event properties of *-er* nominals". *Lingua*, 141, 139–156.
4. Roy, I. & E. Soare (2014). "Les noms d'humains dérivés de participes : nominalisations en *-ant* et *-é/i/u*". *Actes du 4ème Congrès Mondial de Linguistique Française (CMLF)*, Berlin, 3197-3208.
5. Roy, I. & E. Soare (2015). "Nominalisations de participes : propriétés verbales et syntaxe interne". *Le français moderne*, 2015 (n°1), Paris, 54-71.
6. Roy, I. (2010). "Deadjectival nominalizations and the structure of adjectives". In *The Syntax of Nominalizations Across Languages and Frameworks*, A. Alexiadou et M. Rather (eds.), de Gruyter Mouton, 129-158.
7. Borer, H. & I. Roy (2010). "The Name of the Adjective". In *Formal Approaches of Adjectives*, Linguistik Aktuell Series 153, P. Cabredo Hofherr et O. Matushansky (eds.), John Benjamins, 85-113.
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9. Copley, B. & I. Roy (accepté). "Deriving the readings of French *être en train de*". *Romance Languages and Linguistic Theory : Selected Papers from 'Going Romance' Amsterdam, 2013*, John Benjamins.

10. Roy, I. & E. Soare (2013). “Event related Nominalizations”. In *Categorization and Category Change*, G. Iordăchioaia, I. Roy et K. Takamine (eds.), CSP, 121-152.
11. Roy, I., B. Copley, S. Colonna & S. Arunachalam (ms., soumis). “Grammatical and conceptual knowledge of dispositions in the interpretation of -er nominals : Experimental evidence from adults and children”. ms, U. Paris 8 / CNRS / Boston University.
12. Roy, I. & P. Svenonius (2009). “Complex Prepositions”. In *Autour de la préposition. Actes du Colloque International de Caen (20-22 septembre 2007)*, J. François, E. Gilbert, C. Guimier et M. Krause (eds.), Presses Universitaires de Caen, 105-116.
13. Roy, I., B. Copley & L. McCune (ms., soumis). “The emergence of Merge and Recursion as generative processes in the transition from single words to sentences”. ms, U. Paris 8 / CNRS / Rutgers University.

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NOMINALIZATIONS: NEW INSIGHTS AND THEORETICAL IMPLICATIONS

Introduction

Nominalizations (*i.e.*, the formation of nominals from deverbal and de-adjectival bases) remain something of a puzzle for linguistic theory, in spite of the central place they have taken in linguistic investigation for about fifty years (starting with the seminal work of Lees 1960 and Chomsky 1970). One of the reasons for this is their obvious trans-categorial status, responsible for their having mixed properties of both nominals and the predicative items (either verbal or adjectival) they derive from. This mixed status still presents an interesting challenge to standard syntactic theories.

If one thinks of the prototypical function of verbs as naming actions or events and that of nouns as naming things/individuals, one fundamental property that distinguishes deverbal nominalizations from other nouns is their ability to denote events. This ability is present with verbs and generally absent with nouns, with some possible exceptions, such as *movie*, *game* if we conceive them as denoting events (*cf.* below). Note that if one were to treat events as entities, one could plausibly suppose that the function of Ns is to name entities across the board (including things, individuals, and also events).

Deverbal nominals such as *destruction*, *proposition*, *achievement* may denote events (*e.g.*, *the destruction of the towers by Godzilla*), and therefore raise the issue of the source of the event interpretation inside nominals. One option is that the event interpretation is a lexical property of these nouns. This amounts, however, to multiplying lexical entries in order to account for the existence of the eventive nominals and homophonous non-eventive ones. This leads, for instance, to distinguishing EXAMINATION₁ (as in *The examination of the students by*

the professor) and EXAMINATION2 (as in *The examination is on the table*), with different lexical semantic specifications. Another option explored in recent works (Alexiadou 2001, Borer 2001, 2003, 2005) would be that the source of the event which is present in eventive deverbal nominals is indeed structural, and relates to the presence in such nominals of a true event-related (either verbal or aspectual) structure. In this case, the observed properties are mere results of linguistic computation: functional layers that typically characterize verbs are responsible for similar properties in both verbs and derived nominals.

In this introduction, instead of providing a complete overview of the field (and for such an overview, we refer the reader to Alexiadou et al. 2007, Alexiadou & Rathert 2010, Kornfilt & Whitman (in press), in particular), we will rather focus on some major but often neglected issues underlying the reflection on nominalizations, present several new developments and insights that have recently emerged, and show how a range of open questions may find answers in the papers collected in the present issue.

2. A correlation between the projection of arguments and an event reading

A classical problem in the study of nominalizations has always been their semantic ambiguity. Since Grimshaw's (1990) seminal study, deverbal nominals are known to exhibit an important correlation between the obligatory presence of an argument structure (associated with the base verb) and the eventive interpretation (*i.e.*, the event that carries the aspectual properties of the underlying verb). For instance, a nominal like *examination* can be eventive and realize obligatory argument structure in (1a), and it can be non-eventive and lack an argument structure in (1b); in turn, a nominal like *exam* unambiguously denotes an object and has no eventive properties (1c):

- (1) a. the examination of the patients in one day/*was on the table.
 b. the examination *in one day/was long/was on the table.
 c. the exam *in one day/was long/was on the table.

Grimshaw relates this ambiguity to a distinction between *Complex Event* nominals and *Result* nominals.¹ Given the observed correlation between Argument Structure and eventive interpretation, in recent work on nominalizations (*cf.* Borer 2005, Alexiadou 2010a-b among others) the distinction has been restated in terms of *Argument-Supporting* (or AS)-nominals and *Referential* (R)-nominals. The table in (2) provides a map of their characteristic properties.

1. But see section 3, below, for a third class of *Simple Event* nominals.

(2)	AS-Ns	R-Ns
i.	event reading	no event reading
ii.	obligatory arguments	arguments not obligatory
iii.	compatible with aspectual modifiers like <i>in three hours</i>	not compatible with aspectual modifiers
iv.	<i>constant, frequent</i> with the singular	<i>constant, frequent</i> possible only with the plural
v.	<i>by</i> -phrase is an argument	<i>by</i> -phrase is not an argument

This map of acknowledged properties of the two main classes of deverbal nominalizations provides the basis for syntactic accounts of AS-Ns, known broadly as the “[NP [VP]] approach” (see Fu, Roeper & Borer 1991/2004 for a recent overview). The projection of argument structure inside deverbal nominals is seen in this type of analysis as a property of a verbal layer included in their structure. The compatibility with aspectual modifiers is related to the existence of verbal functional layers that have received different labels throughout the literature, from “Event Phrase” in Van Hout & Roeper (1998), to different flavors of AspP as in Borer (2005), Alexiadou *et al.* (2010).

The presence of eventive layers in the representation in syntactic approaches to nominalizations provides a nice interface with the neo-davidsonian semantic tradition, where the dynamic character of verbal constructions is related to the presence of an event variable in the semantics of these nominals as well. The representation of events inside nominals, however, raises a number of further questions. We will address some of these questions in what follows, as they are directly relevant to the papers presented in this volume.

3. What event inside nominals?

The first question relates to the idea of ‘events’ inside nominals altogether. What does it mean for a nominal to be eventive? Is it the same thing as with a verb? Is it the same thing across nominals?

3.1. Simple event Ns

In addition to the distinction between CENs and RNs, mentioned above, Grimshaw (1990) also distinguishes a class of *Simple Event* nominals, such as *game, movie, crime, meeting*. These nominals are possibly eventive, even though they are devoid of overt arguments. They differ from *R*-nominals in referring to an event rather than an individual entity (*cf. table, book, boy*).

This view clearly implies two different senses of ‘eventivity’ and possibly the existence of a ‘strong eventivity’ and a ‘weak eventivity’.² There is a consensus that the projection of argument structure is responsible for the presence of a structural eventive layer in AS-Ns (Grimshaw’s CENs), determining the range of properties that are listed in the first column in table (2) in section 2. This strong eventivity is correlated to the presence of arguments, aspectual structure, etc. A SEN, which denotes a (simple) event but does not project argument structure is not eventive in the strong sense.

We note, in this respect, that when *by*-phrases are present, they will have an argument status in CENs, as a reflect of their obligatory argument structure, while they will only be adjuncts in SENs (sometimes even taking a possessive or ‘author’ interpretation). This is supported by differences in prepositions in languages such as Romanian, in which “*de către*” *by*-phrases are unambiguously argumental (see Cornilescu 2001 among others):

- (3) a. interpretarea acestei sonate **de către** Dinu Lipatti în 1960 a surprins pe toți
 interpretation this. Gen sonata by Dinu Lipatti in1960 has surprised ‘pe’
 everyone
- b. *interpretarea de către Dinu Lipatti a surprins pe toți
 interpretation by Dinu Lipatti has surprised ‘pe’ everyone
- b. acest concert **de** (***către**) Dinu Lipatti a fost difuzat la radio
 this concert by Dinu Lipatti has been transmitted on radio

What SENs are, however, remains unclear. From a purely semantic perspective, the split might seem unfounded: both SENs and CENs belong to the same ‘event-denoting’ class: *meeting* and *destruction* are, from this point of view, rather similar. There are, however, further arguments to distinguish them (besides the projection of obligatory argument structure already mentioned). First, CENs can inherit temporal adverbials associated with the underlying verb, while SENs cannot:

- (4) a. the destruction of the house in 3 hours
 b. they destroyed the house in 3 hours
- (5) a. #the meeting for 3 hours (in the main conference room)
 b. they met for 3 hours (in the main conference room)

2. The terms ‘strong’ and ‘weak’ eventivity should be understood descriptively, as meaning that the nominal expression shares most or only few (morpho-syntactic and semantic) properties of verbal events. No ontological claim is intended, and it is conceivable that the weak/strong distinction relates to different structures.

Another property that supports the distinction between the two classes, is the availability of control in purpose clauses in CENs but not in SENs (6):

- (6) a. John's playing cello in order to win a medal
 b. *John's cello concert in order to win a medal

Moreover, in Romanian, SENs, on a par with R-Ns, admit adjectival *de* 'from'-time/place adjuncts – see (7a-b) vs. (8a), which are incompatible with CENs, as (8b) shows (*cf.* Cornilescu 2001).

- (7) a. casa de pe deal
 house.the from on hill
 'the house on the hill'
 b. catastrofa de la Fukushima
 disaster.the from at Fukushima
 'Fukushima disaster'
- (8) a. discuția din acest paragraf
 discussion.the from this paragraph
 'the discussion in this paragraph'
 b. discutarea acestor argumente în/*din acest paragraf de către autor
 discuss.Inf.the these.Gen arguments in/*from this paragraph by the author

There is, then, sufficient empirical basis to motivate a distinction between CENs and SENs, and it can be concluded that despite their having a certain common eventive semantics, the properties of SENs make them merely similar to R-Ns in the table in (2), rather than AS-Ns. The realization of argument structure, correlating with all other 'strong' event properties, seems to be the relevant discriminating factor, as originally described by Grimshaw; it is therefore justified to distinguish 'strong' events from 'weak' events, the latter behaving on a par with individuals and things.

3.2. 'Agent'-nominals

Aside from CENs, names for participants in an event (*e.g.*, *-er* nominals and their equivalent across languages) have also been claimed to be eventive, or episodic (*cf.* Alexiadou & Schäfer 2010, Roy & Soare (to appear), specifically). Their eventive component can be shown by their compatibility with event-modifying adjectives such as '*frequent/occasional*' (9), as well as adjectives such as '*beautiful/old*' in their event-oriented interpretation (10):

- (9) a *frequent* flyer; the *occasional* buyer
- (10) a *beautiful* dancer (= who dances beautifully); an *old* learner of Chinese (=who has been learning Chinese for a long time)

We note, however, that compatibility with event-modifying adjectives is not unique to deverbal nominals (*cf. an old friend*, which can be interpreted as having a long lasting friendship), suggesting that the adjectival modification test does not signal the ‘strong event’ under discussion here specifically. This is confirmed by the impossibility of temporal modification illustrated in (11), as also pointed out by Alexiadou (2001) for Greek, examples in (12):

- (11) *the flyer in 5 hours (to Paris)
- (12) a. *i damastes ton fotonion mesa se/gia enan eona
 the tamers the.Gen photons within/for a century
 b. *o katharistis tu ktiriu epi ena mina telika apolithike
 the cleaner the.Gen building for a month finally got fired

Nevertheless, we must be able to distinguish these (‘weak’) eventive *-er* nominals from, for example, instruments (which are non-eventive altogether). As shown in Roy & Soare (to appear) for French, the distribution of event-oriented adjectives *big/happy/old* distinguishes instrumental nominals (incompatible with the event-oriented reading of adjectives), from dispositional nominals (which admit them), as in (13a-b):

- (13) a. Les gros consommateurs/vendeurs font tourner la machine économique.
 the big consumers/sellers run the economy
 b. #un gros broyeur est toujours utile
 a big grinder is always useful (with the event-oriented reading, meaning ‘which grinds much’)

In turn, Roy & Soare (to appear) show that, even though both episodic (14a) and dispositional (14b) participant nominals involve an event, which is absent from instrumental nominals, they are different in that the former, but not the latter, are compatible with *frequent* modifiers. Episodic nominals involve a particular event, while dispositional nominals do not. The combination of the two tests (*big/happy/old* in their event-oriented reading, and *frequent*-type modifiers) therefore provides a three-fold classification of participant nominals that better describes their properties (see also below).

- (14) a. un consommateur fréquent de plusieurs drogues douces
a frequent user of many soft drugs
- b. #un consommateur fréquent; #un vendeur fréquent de voitures
a frequent consumer a frequent seller of cars

The idea of an event inside *-er* nominals is therefore defensible. In German this goes even further, inasmuch as in this language *-er* nominals not only function as ‘agent’-nominals, but may also function as truly event-denoting nouns (with specific aspectual properties): *ein Piepser* ‘a beep’, *ein Klopfen* ‘a knock’. This provides an interesting ground for exploring events inside *-er* nominals, if one is to assume that there is only one *-er* morpheme (*cf.* Schäfer, **this volume**).

3.3. Non-eventive bases: state verbs

In this line of reasoning, very little attention has been paid to nominals derived from non-event predicates. Two important cases that do *not* involve a dynamic event, but plausibly an eventuality in a broader sense, nevertheless, have often been neglected: nominalizations of stative verbs (*e.g.*, *knowledge*, *hatred*) and deadjectivals (*e.g.*, *redness*, *pride*, *length*). These two classes of nominals have little in common, however, and we shall postpone a discussion of deadjectivals until section 6 below, focusing here on nominals derived from stative verbs.

Nominals formed from stative verbs are not eventive *per se*; although they may be argued to involve an ‘eventuality’ in a broader sense, here a *state*. Recent work on stativity has claimed that stative verbs may in fact involve a state variable. Parsons (1990), and more recently Roy (2006) and Martin (2009) have argued that states do not differ from events in having a DAVIDSONIAN argument. Maienborn (2004) and Rothmayr (2009) claim that two groups of stative verbs must be distinguished, those involving a DAVIDSONIAN state (a concrete state variable), and those involving a KIMIAN state (an abstract state variable). Without entering into the details of the argumentation, these positions open the way to a new reflection about nominals derived from statives (as in Fábregas & Marín 2011, for instance). How do nominals derived from statives behave with respect to the three classes distinguished by Grimshaw? Is there a correlation between an eventuality reading for nominals derived from statives and argument structure as found with event nominals?

One issue concerns the putative inheritance of the stative aspect, and/or the stative verb properties inside the related nominal. Recent works (*cf.* Barque, Fábregas & Marín (to appear), among others) have shown, for instance, that psychological verbs, may form nominalizations alternating between a (psychological) state-noun (which allows argument structure) and

an object/cause of the state (which lacks arguments). The psychological state interpretation is related to the presence of an experiencer, suggesting that fine-grained aspectual and argument structure properties of the stative verb are visible for nominalizations (and see also Fábregas, Marín and McNally (to appear)).

The question of the argument structure with stative verbs is, however, far from trivial. The external argument of a stative is normally seen as a Holder/Experiencer (and we may remain agnostic as to whether the distinction is needed at all; see Landau 2010, for instance). Most views on statives accept that their complements, when realized, are in fact part of the description of the state (*i.e.*, ‘rheme’ objects for Ramchand 2008; ‘fusionned’ predicates for Krifka *et al.* 2005). This difficult question transfers to the nominalizations as well, and very few reliable tests can tell us whether (15) has an argument structure (as opposed to a genitive of possession):

(15) John’s knowledge of music

In most cases a direct transfer of the verb’s arguments into the nominal construct is simply impossible:

(16) a. Mon fils croit au Père Noël.
 my son believes in Santa Claus
 b. *la croyance de mon fils au Père Noël
 the belief of my son in Santa Claus

(17) a. Sarah connaît le résultat de l’opération.
 sarah knows the result of the operation
 b. *la connaissance de Sarah du résultat de l’opération
 the knowledge of Sarah of the result of the operation

Example (17) demonstrates the fact that a double genitive is generally banned, a generalization that holds cross-linguistically.

The correct typology of stative nominals needs also to be investigated. In that perspective, an interesting path would be to consider forms that alternate between an active and a stative reading: *John decorates the house/The flowers decorate the table*, as opposed to verbs that do not allow such alternation (*cf.* **Alexiadou, this volume**). As Fradin (2010) pointed out, in the vast majority of cases, with such alternating verbs, the nominal can only pick the active base (*John’s decoration of the house/*The flowers’ decoration of the house*). On the other hand, as discussed by **Fradin (this volume)**, we also find that nominals interpreted as stative (*emprisonnement*, lit. im-prison-ment

‘detaining’) do not necessarily derive from a stative verb (*emprisonner*, lit. imprison ‘put in jail’). The interpretational/structural relationship between stativity and dynamicity, and/or agentivity, needs to be better understood if we are to understand the inheritance properties of derived nominals generally. The inheritance of stative aspect in derived nominals remains an open issue; as does the role of (overt *vs.* zero derived) morphology in the building of stative aspect inside these nominals.

4. Outer aspect and plurality

The idea of aspectual distinctions inside nominals goes again back to Grimshaw (1990), according to which the difference in properties between ASNs (her CENs), on the one hand, and R-Ns (her SENs and Result Nominals), on the other, – such as the projection of obligatory argument structure, the availability of adverbial aspectual modifiers, and control into purpose clauses, discussed above – is connected to the presence of an internal (complex) aspectual structure (leading to ‘strong’ eventivity) in these nominals (*cf.* for example, (4)/(5) above). If we take this claim seriously, it means that at some level deverbal AS-Ns must not only encode the inner aspect of the verb base (*i.e.*, lexical aspect/Aktionsart), but also, and maybe more importantly, outer aspect as well (*i.e.*, grammatical aspect, such as imperfectivity, for instance).

Recent studies of the fine-grained distinctions among AS-Ns point to the possibility that this is indeed the case. Cornilescu (2001) has argued, for instance, that the Romanian infinitive and supine nominalizations encode different aspectual values (telicity *vs.* atelicity, respectively). This difference is plausibly situated at the level of outer aspect (*i.e.*, imperfectivity; see Iordăchioaia & Soare 2008, 2009). As another illustration, Ferret *et al.* (2010) have argued that French event nominals in *-age vs. -ée* encode imperfectivity (in (a)) and perfectivity (in (b)), respectively:

- (18) a. (??après) **Parrivage** de la marchandise (est en cours).
 after the. arriving of the merchandise is in process
 b. (après) **Parrivée** de la marchandise (*est en cours)
 after the. arrival of the merchandise is in process

Whether nominalizing morphemes themselves may contribute an (outer) aspectual value, or such value is provided by the internal make-up of the nominalizations is subject to some debate. In the light of minimal pairs such as *arrivage/arrivée* (from *arriver* ‘arrive’) (18), *perçage/percée* (from *percer* ‘drill’), where the only

difference seems to be the actual suffix involved, the role of morphology appears rather straightforward. **Knittel (this volume)** presents arguments, however, in support of the opposite view, according to which the aspectual properties of derived nominals are related to the inflectional system inside the nominal, and more particularly number, addressing the relationship between semantic/morphological plurality.

The idea that aspect inside event-nominals is correlated to number, and more specifically, plurality, has been explored in various works in recent years. One generalization put forward by Grimshaw (1990) for CENs (our AS-Ns) states that they are unable to pluralize (19a-b) (which is often seen as a consequence of their being [-count]), and is confirmed by the general ban on discrete determiners and quantifiers (19c):

- (19) a. The shooting of rabbits is illegal. (AS-Ns)
 b. *The shootings of rabbits are illegal.
 c. *A/*One/*That shooting of rabbits is illegal.

Recent works on Romance languages have challenged this generalization; see Roodenburg (2006) for French, Iordăchioaia & Soare (2008, 2009) for Romanian and Alexiadou *et al.* (2010) for a cross-linguistic perspective. This forces a redefinition of the issue, the problem arising from these studies being that AS-Ns display a non-uniform behavior with respect to plurality; what precise property determines the blocking of plural in some – but not all – event nominals across languages? How does this relate to the mass/count distinction among nominals across the board? (see **Huyghe, this volume**).

From a structural perspective, one possibility that has been seriously explored is to relate it to the correlation between inner aspect (telicity) and number (as put forward by Mourelatos 1978, Borer 2005; *cf.* also **Knittel, this volume**); only telic deverbal nominals are predicted to pluralize. Another possibility has been to relate this property to the competition between the projection of (outer) Aspect and Number in these nominals (*cf.* Iordăchioaia & Soare 2008, 2009 and Alexiadou *et al.* 2010). What seems to be shared by these views is the general agreement on the fact that aspect (either the Aktionsart contributed by the verbal base or built-in aspect inside nominals) determines the count properties of derived nominals, and this again shows that typically verbal information is accessible inside derived nominals.

5. Beyond the verbal phrase and inflectional layers

Additional properties of nominalizations seem to go beyond the (verbal) phrasal and inflectional layers (*i.e.*, Tense, Aspect or Number), grounding another

parallel, namely between nominalizations and clauses. We know, that clausal nominalizations do exist across languages (as for instance, in Turkish and Greek (*cf. ex (20)* from Alexidou *et. al* 2007), Malagassy (Ntelitheos 2006), but they seem to be absent in others (Romance languages, Germanic languages, etc.), where nominals involving a complementizer (CP) and/or Tense (TP) layer seem to be lacking:

- (20) To oti irthe me stenaxori
 the that he-came me upsets
 ‘The fact that he came upsets me’

However, looking at names of event participants, Roy & Soare (to appear) have argued that they may involve an inner genericity, necessarily contributed by a full clause upon which the nominalization is built. Genericity can be built at the clausal level; similarly to characterizing sentences such as *Lions have bushy tails* (Carlson & Pelletier 1995). It may also be associated with differences in the specificity of the object (the episodic reading being associated with specific arguments, and the generic reading with non-specific ones): *Ben likes this book/Ben likes (good) books*. For Roy & Soare (to appear), the role of the internal argument in bringing about an episodic *vs.* generic reading for nominalizations is therefore identical to what is found at the clausal level. They point out the neat mapping between the specificity of the internal arguments, the episodicity of the underlying event and the episodicity of the derived nominal, such that [–specific] arguments give rise to a generic interpretation inside the derived nominals (also sometimes referred to as a ‘dispositional’ reading, *cf.* Alexiadou and Schäfer 2010), as is commonly the case at the clausal level.

- (21) a. le vendeur de voitures > dispositional/generic ‘agent’ N
 ‘the car-seller’
 i. /vendre des voitures/ > generic event
 ‘sell the cars’
 ii. des voitures > non-specific DP object
 ‘PART. cars’
 b. le vendeur des voitures > episodic ‘agent’ N
 ‘the seller of the cars’
 i. vendre les voitures/ > episodic event
 ‘sell the cars’
 ii. les voitures > specific DP object
 ‘the cars’

- | | |
|--|----------------------|
| c. le vendeur de cette voiture
'the seller of this car' | > episodic 'agent' N |
| i. vendre cette voiture/
'sell the car' | > episodic event |
| ii. cette voiture
'this cars' | > specific DP object |

The parallelism between the semantic effects at the clausal level and the ones found with nominalizations suggests strongly that *-er* nominals are derived from full clauses, thereby possibly expressing genericity *vs.* episodicity. This type of nominalization illustrates new dimensions of the correlation between eventive (sentential) layers and argument structure in deverbal nominals.

6. Deadjectival Nominalizations

The other large group of non-eventive predicates that has often been neglected is that of deadjectival nominalizations. Some issues here are similar to the ones introduced by nominalizations based on stative verbs (section 3.3.), while others are more specific: (i) are all occurrences of deadjectival nominals the same? And what is the right typology of deadjectival nominalizations? (ii) what is their relationship to event nominals across the board?, and (iii) do deadjectival nominals have arguments?

The issue of typology breaks down into two different, though related, questions. First, one might wonder if deadjectival nominals form a unified class, with unified interpretational and morpho-syntactic properties. We are not particularly concerned here with whether deadjectival nominals all express a unique type of object (*e.g.*, they may express qualities and properties, as in Van de Velde 1995 and Flaux & Van de Velde 2000), but rather whether they are the same item in all of their occurrences. Is *kindness* always the same nominal, or are further distinctions needed, reminiscent at some level of Grimshaw's distinctions? Roy (2010) has shown that deadjectival nominals with and without the realization of the argument structure of the base adjective behave differently, in particular in their compatibility with temporal modifiers. This finding suggests that, as for 'complex-event' nominals, deadjectival nominals contain an underlying eventuality in (22) but not in (23). The contrast between the two types is confirmed by the obligatory presence of the article in (22) and its absence in (23):

- (22) The kindness of John towards his mother was greatly appreciated.
 (23) Kindness is a quality that is valued by all persons.

If a distinction between quality-nominals and property-nominals is needed, it is super-imposed on the distinction in (22) and (23). The contrast in (22) and (23) shows also that early views that exclude deadjectivals from the set of nominalizations (and therefore claim the absence of a derivational relationship between *kind* and *kindness*) are problematic, as further confirmed by the well-described fact that only adjectives that have a predicative use can form the base of a nominalization (see Fradin & Kerleroux 2003, for the French suffix *-ité* in particular, and Roy 2010 for a more general discussion). If there were no derivational relationship between the base adjective and the noun, such a restriction should not exist, and there should not be a ban on any class of adjectives in particular.

The second aspect of the issue is how best to describe the properties of the expressions in (22) and (23), and the ontology of these expressions, *i.e.*, whether these properties are derivable from other principles or primitives. Moltmann (2004) and Villalba (2009) argue that deadjectival nominals such as those in (22) are ‘tropes’ (which for Villalba can come in different flavours, *i.e.*, property-tropes and quality-tropes, thereby reintroducing the earlier distinction by van de Velde). Taking the opposite stand, deadjectival nominals may express properties. Taking seriously the idea that properties are predicates, and that this is reflected in the structures, it can be argued that deadjectival nominals are derived from properties, and that there may be no linguistic relevance for a further enrichment of the ontology (*cf.* Arsenijević, **this volume**).

Another issue that bears also on the question of typology, in the domain of deadjectival nominals in particular, comes from the conjunction of the fact that the nominal expression in (23) can generally be combined with a genitive (*e.g.*, *John’s kindness*) and the across-the-board absence of reliable tests for distinguishing arguments (introduced by a genitive) and mere possessives. The status of nominal complements with such nominals must be further investigated, namely whether they are N modifiers or real arguments. We would like to suggest that French may offer such a test; or at least, offers a way to think about this issue. Genitives of possession are expressed by *de*-phrases in French, but colloquial French tends to prefer the dative to express the possessor:

- | | | |
|------|---|---|
| (24) | la voiture de Jean ;
the car of John
‘John’s car’ | le problème de Jean
the problem of John
‘John’s problem’

(can potentially express all sorts of relations. It may mean: the problem that belongs to John, the problem that John created, or the problem that John represents, etc.) |
|------|---|---|

- | | | |
|------|---------------------|-------------------------|
| (25) | la voiture à Jean ; | le problème à Jean |
| | the car at John | the problem at John |
| | 'John's car' | 'John's problem' |
| | | (only means possession) |

When a deadjectival nominal is accompanied by a *de*-phrase (e.g., *la gentillesse de Paul*; 'Paul's kindness' (26)) it could either be a possessive genitive or a holder argument inherited from the adjective. If a possessive, it can be replaced by the dative:

- | | | |
|------|------------------------|-----------------------|
| (26) | la gentillesse de Paul | la gentillesse à Paul |
| | the kindness of Paul | the kindness at Paul |
| | 'Paul's kindness' | 'Paul's kindness' |

However, when the argument structure is fully realized, the substitution of *de* with *à* becomes impossible, which can only be shown with transitive adjectives. Pending further investigation, the realization of a full argument structure seems, in French, to block the dative replacement:³

- | | | |
|------|---|---|
| (27) | la gentillesse de Paul envers sa mère ; | #la gentillesse à Paul envers sa mère |
| | the kindness of Paul towards his mother | the kindness of Paul towards his mother |

This point illustrates the difficulty to find appropriate tests for argumenthood, with deadjectival Ns and Ns derived from stative predicates more generally.

7. Conclusion

Recent and ongoing research on nominalizations point in the direction of refined verbal/aspectual distinctions inside derived nominals, once the right classes of nominals are considered, teasing apart the cases where inheritance of the properties of the base are expected from cases where it is not. This introduction has presented current issues in the domain of nominalizations to which the papers gathered in this volume offer a ground for discussion. Among these issues are the notion of events inside nominals, the typologies of derived nominals, the correlation between morpho-syntactic and semantic properties in the domain of number, argument realization and aspectual distinctions, which we hope open the way to a better understanding of what NOMINALIZATIONS are.

3. Two notable issues would have to be considered before offering a firm test: (i) the relatively low number of testable adjectives (*i.e.*, only transitive ones), (ii) the possible language clash between the use of nominalizations with the dative-possessor (*i.e.*, found in different language registers plausibly).

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L'enquêteur, le surveillant et le détenu : les noms déverbaux de participants aux événements, lectures événementielles et structure argumentale *

Isabelle Roy, Elena Soare

1. INTRODUCTION

Nous nous intéressons dans cet article aux différentes lectures auxquelles donnent lieu les noms déverbaux de participants aux événements (Agents, Patients, Instruments, etc.). Notre recherche adopte une approche syntaxique de la formation des mots, et veut vérifier l'hypothèse d'une corrélation entre la lecture événementielle des noms déverbaux et la réalisation obligatoire de la structure argumentale de la base verbale à laquelle ils sont associés. Depuis Grimshaw (1990), il est communément accepté que les noms déverbaux comme *construction* peuvent être interprétés ou bien comme des noms d'événement complexe (*La construction de la cathédrale par les ouvriers a duré un siècle*), ou bien comme des noms de "résultat", aussi appelés "référentiels d'objet" (*Cette construction date de 1813*). Dans le premier cas, le nom *construction* dénote un événement et doit nécessairement réaliser la structure argumentale du verbe *construire* sur lequel il est dérivé (ce qui donne lieu à l'agrammaticalité de **La construction a duré un siècle*, sauf lorsque les arguments implicites, nécessairement présents, peuvent être identifiés par le contexte).¹ Dans le second cas, le nom dénote un objet (matériel), et n'a de relation à un événement que dans le sens où

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1. Il est communément admis que le parallélisme structurel entre verbe (*Les ouvriers construisent une cathédrale*) et nom (*la construction de la cathédrale par les ouvriers*) constitue une indication du statut d'argument pour les syntagmes prépositionnels compléments du nom. Nous acceptons cette vue ici.

il peut en exprimer le résultat (par exemple, *une construction, une peinture, un rapport*). Dans ce cas, aucun argument n'est réalisé. Du point de vue de la structure interne de ces noms, des travaux récents ont suggéré que, alors que les noms d'événements complexes reposent sur une structure qui inclut les arguments du verbe, les noms référentiels d'objet sont construits sur une structure plus "simple", incluant essentiellement une racine verbale dépourvue de ses arguments (cf. Borer (1999), Alexiadou (2001) pour la distinction *argument-structure nominals / referential nominals*).

Dans ce contexte, les noms de participants aux événements posent une question intéressante. Puisque de tels noms dénotent des participants aux événements, ils ne peuvent, par hypothèse, qu'être construits sur une base verbale "complète", c'est-à-dire qui inclut ses arguments, étant eux-mêmes des nominalisations de tels arguments. Partant de l'hypothèse qu'il existe une corrélation entre réalisation de la structure argumentale et lecture événementielle dans les nominalisations, il est attendu que ceux-ci donnent nécessairement lieu à une lecture événementielle (impliquant une participation à un événement particulier). Ceci n'est cependant pas toujours le cas. Par exemple, le nom *constructeur* (nom d'Agent) peut être événementiel dans *Le constructeur de cette maison ne veut pas raboter les fondations* (où *constructeur* est interprété en relation à un événement sous-jacent particulier de *construire*), mais pas dans *La municipalité a auditionné un nouveau constructeur*. Ici le nom renvoie à une "disposition" et n'implique pas nécessairement un tel événement. La lecture dispositionnelle est assez inattendue et doit être expliquée, dans un effort pour fournir une théorie unifiée de la relation entre sens événementiel et structure argumentale dans les nominalisations.

Nous montrerons que les noms de participants appartiennent à trois classes distinctes, une tripartition fondée sur (i) la présence *vs* absence d'une structure événementielle dans ces noms, et (ii) le caractère épisodique *vs* générique de l'événement en question. Nous montrerons, en particulier, que la lecture dispositionnelle est une lecture événementielle, mais que celle-ci comporte une force générique, construite dans l'éventualité sous-jacente. Ces distinctions sont corrélées avec des propriétés de structure argumentale cohérentes au sein de chaque classe. Il apparaîtra que la réalisation des arguments dans ces trois classes est prédictible si nous acceptons que le type d'interprétation événementielle (épisodique ou générique) dépend du type de construction verbale sous-jacente. En d'autres termes, nous apportons un argument en faveur de la vision défendue dans des travaux récents concernant l'héritage des propriétés aspectuelles dans les nominalisations (cf., parmi d'autres, Alexiadou (2001), Borer (2003), Haas, Huyghe & Marín (2008), Ferret, Soare & Villoing (2009) et Ferret & Villoing (2012 (dans ce volume)), Alexiadou, Iordăchioaia & Soare (2010)). Nous soutenons ici une position similaire en ce qui concerne la généricité, qui, nous le montrerons, est construite dans les nominalisations de façon syntaxique.

Notre discussion s'appuie sur l'étude de l'opposition entre les noms en *-eur* et les noms en *-ant*, qui nominalisent en apparence tous deux des arguments externes, et les prédictions de notre analyse pour les nominalisations d'argument interne en *-é/-i/-u*.² Deux remarques préliminaires sont nécessaires sur les données prises en compte dans cette étude.

Tout d'abord, notre propos ne concerne que les noms de participants dans leurs usages strictement argumentaux, c'est-à-dire lorsqu'ils réalisent effectivement un argument d'une éventualité (par exemple, *La municipalité a auditionné un nouveau constructeur*, où *constructeur* renvoie au Patient d'*auditionner*), à l'exclusion des usages prédicatifs (par exemple, *Pierre est un constructeur*, *Pierre est constructeur*), qui semblent présenter leur propre relation aux événements sous-jacents, indépendamment de leur dérivation lexicale ou non (cf. *Pierre est capitaine*, *Paul est avocat*) ; cf. Roy (2006), Martin (2008), parmi d'autres.

D'autre part, bon nombre de formes en *-eur*, *-ant* et *-é/-i/-u* sont ambiguës entre un nom et une forme adjectivale qui peut apparaître comme modifieur de nom, avec des marques de degré, par exemple : *une militante / une proposition très militante*, *un menteur / le poker menteur*, *une mariée / les femmes non mariées*, etc. Lorsque de telles formes apparaissent seules précédées d'un article, comme en (1), nous pouvons avoir affaire ou bien au nom, ou bien à un adjectif modifiant une tête nominale vide (*pro*) (voir aussi Corblin (1990), Sleeman (1996), Marandin (1997), parmi d'autres). Nous nous intéressons ici seulement aux noms *véritables* (2), à l'exclusion donc de ce que Borer & Roy (2005) appellent des *constructions Adj-pro* (dans lesquelles un adjectif modifie un (*pro*)nom nul), et qui ne peuvent pas, contrairement aux premiers, apparaître dans les contextes faibles, tels que les phrases existentielles, par exemple (3).

- (1) *une militante, l(es) enseignant(s), le collant, un soignant
un menteur, le destructeur, les amateurs
une mariée, un blessé, les pendus, etc.*
- (2) a) *Une militante / Quelques passants / Des coopérants étai(en)t là* (N véritables)
b) *Des navigateurs / Des inspecteurs étaient là*
c) *Des mariées / Des blessés étaient là*
- (3) a) **Trois acceptants / *Des entrants étaient là* (Adj-pro)
b) **Un menteur / *Quelques dominateurs / *Des flatteurs étai(en)t là*
c) **Trois insoumis étaient là*

2. L'opposition entre argument externe et argument interne renvoie syntaxiquement aux sites de réalisation des arguments à l'extérieur ou à l'intérieur du groupe verbal. Les compléments sont des arguments internes. Les sujets sont généralement des arguments externes, sauf pour les verbes inaccusatifs, qui se distinguent des autres intransitifs par la présence d'un sujet provenant d'un argument interne (*Les feuilles tombent / Il tombe des feuilles* vs *Les enfants rient / *Il rit des enfants*). Voir Williams (1980), Chomsky (1981), Kratzer (1996).

Nous commençons par l'étude des noms en *-eur* dans la section 2. ; suivront celles des noms en *-ant* en section 3. et des noms en *-é/-i/-u* en section 4.

2. NOMINALISATIONS DE L'ARGUMENT EXTERNE : LES NOMS EN *-EUR*

2.1. Généralisation de l'argument externe

Les noms en *-eur* (productifs en français) sont traditionnellement décrits comme dénotant des noms d'agent – ou de proto-agent dans les termes de Dowty (1991) – (cf. Anscombe (2001, 2003), Fradin & Kerleroux (2003)). Cette caractérisation est correcte, mais largement incomplète puisqu'elle ne rend pas compte, d'une part, de la diversité des thêta-rôles exprimés par *-eur*, et d'autre part de l'ambiguïté entre les noms événementiels, qui ont un agent à proprement parler, et d'autres noms, comme les noms d'instrument ou d'objet en général, qui n'en ont pas (voir (4)). Plus justement, nous devrions dire que les noms en *-eur* dénotent des participants à l'événement qui correspondent à l'argument externe en général (voir aussi Fabb (1984), Keyser & Roeper (1984), Sproat (1985), Rappaport-Hovav & Levin (1992), qui ont établi cette généralisation pour les noms en *-er* de l'anglais en particulier). Les thêta-rôles exprimés par les noms en *-eur* sont variés. Au-delà du rôle Agent, on trouve aussi des rôles Cause, Siège, Expérient, Instrument, Source, tous correspondant systématiquement à l'argument externe de la base verbale sous-jacente dont ils sont dérivés.

- | | | |
|--------|---|----------------|
| (4) a) | <i>un mangeur de pommes</i> | (Agent) |
| b) | <i>un distributeur d'argent</i>
<i>Obama, un vendeur de journaux</i> | (Cause/Source) |
| c) | <i>un détenteur de ressources pétrolières</i> | (Siège) |
| d) | <i>un admirateur de Napoléon</i> | (Expérient) |
| e) | <i>un compteur de visiteurs gratuit pour votre site</i> | (Instrument) |

Par conséquent, et comme nous nous y attendons, les noms en *-eur* ne sont normalement pas dérivés sur des bases verbales inaccusatives, lesquelles sont dépourvues, par définition, d'un rôle thématique associé à l'argument externe. Dans les exemples (5), la base verbale n'assigne qu'un seul thêta-rôle, associé à l'argument interne, qui ne peut pas donner lieu à une nominalisation en *-eur*³ :

- (5) **un alleur (aller)*, **un veneur (venir)*, **un arriveur (arriver)*

3. Nous reviendrons sur les nominalisations des arguments internes en section 4.

Les exemples (6) ci-dessous semblent contredire une telle généralisation. Notons cependant qu'ici le nom *tombeur* est dérivé, non pas de l'inaccusatif *tomber*, mais bien de *faire tomber*, un causatif, qui par conséquent a un argument externe (cf. Fradin & Kerleroux (2003)) :

- (6) a) *un tombeur de femmes*
 b) *le tombeur d'Agassi*

D'autre part, la notion de "nom d'agent" est aussi partiellement incorrecte face à la diversité des classes sémantiques des noms en *-eur*. Dans la littérature, deux grandes classes de noms en *-eur* sont communément distinguées sur la base de leur caractère [animé] et [inanimé]. Le terme de "noms d'agent" à proprement parler ne s'applique qu'au premier cas (par exemple, *marcheur*, *plongeur*, *videur*) et non pas au second, qui correspond à des noms d'instrument (par exemple, *aspirateur*, *broyeur*, *écouteur*).⁴

À cela s'ajoute le fait qu'en français, seule une sous-classe des noms en *-eur* animés vérifient les tests classiques permettant d'identifier l'agentivité, à savoir admettent la modification adjectivale avec *délibéré*, *volontaire*, *intentionnel*, *obstiné*, adjectifs dont l'interprétation est orientée vers l'agent (7) :

- (7) a) *Ce défenseur délibéré / volontaire des opprimés n'abandonne pas sa cause*
 b) *L'accusateur obstiné de cette jeune femme a tout fait pour l'envoyer en prison*

Comme l'ont fait remarquer Rappaport Hovav & Levin (1992), la modification par de tels adjectifs n'est possible que lorsque les arguments du nom (hérités de la base verbale à laquelle celui-ci est associé) sont réalisés. Ceci suggère que les formes simples du nom (cf. (8)) contrastent avec les formes à structure argumentale (cf. (7) ci-dessus), et ne sont pas agentives :

- (8) a) **Un défenseur délibéré / volontaire*⁵ *n'abandonne jamais sa cause*
 b) **L'accusateur obstiné ferait n'importe quoi pour vous envoyer en prison*

De toute évidence, aucun des noms inanimés ne passe les tests pour l'agentivité, que leurs arguments soient réalisés ou non, comme on doit s'y attendre puisque les noms d'instrument sont normalement dénués d'agentivité (9) :

4. Voir aussi Rappaport Hovav & Levin (1992) dans le contexte des noms en *-er* de l'anglais.

5. Il existe une lecture non orientée vers l'agent de *obstiné* (= dont le caractère est obstiné) et *volontaire* (= dont le caractère est volontaire) qui est possible en (8) ; l'astérisque ne renvoie ici qu'à l'agrammaticalité de la lecture agentive. De même en (10).

- (9) a) *un écouteur (*intentionnel) (de musique)*
 b) *un broyeur (*volontaire) (de vieux papiers)*
 c) *un aspirateur (*délibéré) (de poussière)*

De même, la modification par des adjectifs orientés vers l'agent n'est pas possible avec les noms de Siège et d'Expérient, comme attendu encore, puisque ceux-ci ne sont pas agentifs (10) :

- (10) a) *un connaisseur (*délibéré) (des arts)*
 b) *un détenteur (*intentionnel) (du permis de conduire)*
 c) *un admirateur (*volontaire) (de Voltaire)*

Nous concluons que les noms en *-eur* sont des noms d'argument externe, quel que soit le thème-rôle qu'ils expriment (Agent, ou autres), quelle que soit la valeur agentive à proprement parler du nom (suivant qu'il y ait présence ou absence de structure argumentale), et indépendamment de son caractère animé ou inanimé. Les véritables noms d'agent ne concernent qu'un sous-groupe restreint des formes en *-eur*, lorsqu'ils sont animés et réalisent leur structure argumentale.

2.2. Noms en *-eur* et caractère événementiel

Nous avons remarqué précédemment que la présence vs absence de la structure argumentale dans les nominalisations en *-eur* peut mener à des différences d'interprétation notables, la lecture véritablement agentive des noms qui expriment un rôle externe Agent n'apparaissant qu'en présence de la structure argumentale. Ceci nous renvoie à une corrélation établie dans la littérature sur les noms en *-er* de l'anglais (cf. Rappaport Hovav & Levin (1992)), à savoir qu'un nom en *-er* réalise sa structure argumentale si et seulement si il a une interprétation événementielle, que nous noterons [+event]. Ceci est visible par exemple en (11) ci-dessous (exemples de Rappaport Hovav & Levin (1992)). Les noms de la première et de la deuxième colonnes en (11) diffèrent dans la réalisation de leurs arguments. Dans la première colonne, les arguments (introduits dans un syntagme prépositionnel en *of*) sont réalisés, alors que, dans la deuxième colonne, le nom tête est dénué d'arguments (les exemples (a') et (b') correspondant à des cas d'incorporation lexicale). Cette différence s'associe à des différences interprétationnelles entre les deux groupes de noms. Seuls les noms qui réalisent obligatoirement leurs arguments (colonne de gauche) ont une lecture d'événement particulier sous-jacent, à la différence de ceux de la colonne de droite. Concrètement, en (11a), *the mower of the lawn* implique qu'il y a eu un événement de tonte de gazon dont la personne désignée par *mower* est le sujet, alors que, pour (11a'), il n'y a aucune implication de ce genre, et nous avons affaire à un instrument, comme nous y reviendrons en section 2.3. Le contraste se répète pour les exemples (b), où le terme de droite renvoie à une disposition ("qui peut dresser des chiens") (b') :

- | | |
|---|---|
| (11) a) <i>the mower of the lawn</i>
le tondeur de le gazon
“celui qui tond le gazon” | a') <i>the lawn-mower</i>
le gazon tondeur
“la tondeuse à gazon” |
| b) <i>the trainer of the dogs</i>
le dresseur de les chiens
“celui qui dresse les chiens” | b') <i>the dog-trainer</i>
le chien dresseur
“le dresseur de chien” |

Un argument syntaxique en faveur de la présence d'un événement dans les exemples de la colonne de gauche, par opposition à ceux de la colonne de droite, provient de la distribution des adjectifs comme *frequent* “fréquent”, *constant* “constant”, qui ne peuvent être interprétés que comme modifiant un événement sous-jacent. Lorsque la structure argumentale est présente (colonne de gauche), le nom peut être modifié par de tels adjectifs (12). La lecture événementielle n'étant disponible que lorsque la structure argumentale du verbe servant de base est réalisée, la présence de l'adjectif est corrélée nécessairement avec celle des arguments.

- (12) a) *the frequent mower *(of the lawn)*⁶
le fréquent tondeur de le gazon
“celui qui tond fréquemment le gazon”
- b) *the frequent trainer *(of the dogs)*
le fréquent dresseur de les chiens
“le fréquent dresseur des chiens”
- c) *the constant defender *(of the government's policies)*
le constant défenseur de les gouvernement politiques
“le défenseur constant des politiques du gouvernement”

La généralisation vaut aussi pour le français, comme le montre la similarité des exemples en (13) avec ceux de (12) ci-dessus. Ici aussi la modification avec des adjectifs dont l'interprétation porte sur l'événement est corrélée avec la réalisation des arguments de la base verbale dans le nom. Les noms dénués de structure argumentale ne supposent pas un événement *particulier* sous-jacent, cf. (14).

- (13) a) *un défenseur constant *(des droits de l'homme)*
b) *un consommateur fréquent *(de plusieurs drogues douces)*
- (14) a) *un défenseur (*constant)*
b) *un consommateur (*fréquent)*

Cependant les noms en *-eur* [animés], qu'ils soient pourvus ou non de structure argumentale, vérifient également d'autres tests pour le caractère événementiel, qui semblent indiquer que, même en l'absence de structure argumentale explicite, un événement est nécessairement présent. En particulier, nous notons que les noms en *-eur* animés admettent systématiquement l'interprétation événementielle des adjectifs comme *grand*, *vieux*, *heureux*, *gros*, *petit*, *splendide* (voir aussi Anscombe (2001), pour qui la modification par les ad-

6. Par convention, l'astérisque à l'extérieur de la parenthèse indique le caractère obligatoire du constituant entre parenthèses.

jectifs de cette classe renvoie à un groupe verbal sous-jacent). Ces adjectifs ont en commun de pouvoir être interprétés ou bien comme modifiant le nom tête (dans la lecture intersective), ou bien comme modificateurs d'un événement (dans la lecture non-intersective) – lectures parfois associées à des positions post-/prénominales différentes. Dans le cas de (15a), par exemple, l'ambiguïté de l'adjectif *grand* entraîne une ambiguïté du syntagme *grand voyageur*, qui veut dire, dans la première interprétation, "quelqu'un qui voyage et qui est grand", et "quelqu'un qui voyage beaucoup" dans la seconde, où l'adjectif prend une valeur adverbiale. De même pour (b) :

- (15) a) *un grand voyageur*
 (i) lecture intersective : "qui voyage et qui est grand"
 (ii) lecture adverbiale : "qui voyage beaucoup"
 b) *un vieil enquêteur*
 (i) lecture intersective : "qui enquête et qui est âgé"
 (ii) lecture adverbiale : "un enquêteur expérimenté"

La lecture adverbiale de ces adjectifs n'est possible que si le nom qui les accompagne est événementiel (voir Larson (1998), par exemple). Nous devons conclure que les noms animés en *-eur* dépourvus de structure argumentale ont néanmoins un événement sous-jacent, d'une nature différente de celle des noms en *-eur* à structure argumentale, possiblement.

Ceci distingue les noms événementiels en général des noms référentiels d'objet (qui incluent les noms de résultat, cf. Grimshaw (1990) : *construction, emballage, pincement*), qui n'acceptent jamais ce genre de modification. La lecture adverbiale de *gros, vieux, heureux* est impossible avec les noms référentiels en raison de l'absence, ici, d'un événement sous-jacent (16). La seule interprétation possible est alors intersective, comme donnée sous (i) en (16a-b). Lorsque la lecture intersective n'est pas disponible (par incompatibilité sémantique ou pragmatique), l'adjectif est simplement exclu (cf. 16c) :

- (16) a) *un gros ouvrage*
 (i) "qui est un ouvrage et qui est gros"
 (ii) #^{cc}"un ouvrage intense (dans lequel on œuvre beaucoup)"
 b) *un vieil oreiller*
 (i) "qui est un oreiller et qui est ancien"
 (ii) #^{cc}"un oreiller expérimenté / de longue date"
 c) #^{cc}*un heureux tableau*

Nous concluons que trois classes de noms déverbaux en *-eur* doivent être distinguées selon qu'ils acceptent ou non la modification en *fréquent / constant / occasionnel* et en *heureux / gros / grand / vieux*. La classe 1 est celle des noms qui peuvent prendre à la fois la modification avec *fréquent* et avec *heureux / gros / grand* ; la classe 2 est constituée des noms qui ne peuvent prendre que *heu-*

reux / gros / grand et pas *fréquent* ; la classe 3 n'est compatible ni avec l'une ni avec l'autre. ⁷

(17) Classe 1

- (i) a) *Un consommateur fréquent de plusieurs drogues douces vient d'être arrêté*
- b) *Ce constant défenseur de Besson, Hortefeux et Sarkozy a publié des propos vraiment malsains*
- c) *Un vendeur occasionnel de hot-dogs a été assassiné à Mexico*
- (ii) a') *Un vieux consommateur de plusieurs drogues douces vient d'être arrêté*
- b') *Ce grand défenseur de Besson, Hortefeux et Sarkozy a publié des propos vraiment malsains*
- c') *Un petit vendeur de hot-dogs a été assassiné à Mexico*

(18) Classe 2

- (i) a) **Un consommateur fréquent vient d'être arrêté*
- b) **Un vendeur occasionnel a été assassiné*
- c) **Un constant défenseur a publié des propos vraiment malsains*
- (ii) a') *Les gros consommateurs font tourner la machine économique*
- b') *Les vieux vendeurs ont appris les ficelles du métier*
- c') *Un grand défenseur a fait la force de cette bonne équipe*

(19) Classe 3

- (i) a) **un broyeur fréquent*
- b) **un mixeur occasionnel*
- c) **un transmetteur constant*
- (ii) a') **un gros broyeur*
- b') **un vieux mixeur*
- c') **un heureux transmetteur*

Comme l'ont montré Grimshaw (1990) et Rappaport Hovav & Levin (1992), pour les noms de procès et les noms en *-er* de l'anglais, respectivement, la présence ou l'absence de structure argumentale dans les noms de participants donne lieu à des acceptations différentes avec les adjectifs comme *fréquent*. Cependant, nous montrons ici que les noms des classes 1 et 2 impliquent tous un événement, à un certain niveau, puisqu'ils sont compatibles avec la lecture adverbiale de *heureux / gros / grand / vieux*.

Les noms de la classe 3, pour leur part, sont de véritables noms d'objet référentiels. Ils n'impliquent aucune sorte d'événement sous-jacent. Pour Rappaport Hovav & Levin (1992), une conséquence de l'absence d'agentivité dans les noms d'instrument est qu'ils n'apparaissent pas dans les lectures événementielles. Par conséquent, l'alternance [+/-event] n'est visible que pour les noms animés, et jamais pour les noms d'instrument. Dans nos termes, nous avons affaire ici à une classe de noms référentiels dénués d'événement (et apparentés aux noms de résultats) qui ne vérifient ni les tests

7. Des idiosyncrasies sont attendues (comme l'a aussi fait remarquer un relecteur anonyme), mais elles ne remettent cependant pas en question la pertinence du test fondée sur l'existence possible (mais pas nécessairement universelle) des contrastes.

pour l'agentivité, ni aucun des tests pour l'événement. Nous concluons cependant qu'à la fois les noms de la classe 1 et de la classe 2 sont événementiels, contrairement à Rappaport Hovav & Levin (1992), mais en accord avec les conclusions d'Alexiadou & Schäfer (2010), comme nous le préciserons ci-dessous.

2.3. Événements épisodiques et dispositions

Nous proposons deux lectures d'événement pour les noms en *-eur* en français (classes 1 et 2), que nous nommerons la lecture *dispositionnelle* et la lecture *épisodique* (en adoptant la terminologie de Alexiadou & Schäfer (2010)), et qui sont distinguées formellement par leur (in)compatibilité avec les adjectifs *fréquent / constant / occasionnel* (voir ci-dessus). Plus précisément, ce qui est dénoté dans le premier cas, c'est *l'habilité* ou *la disposition de faire x*. La lecture dispositionnelle n'implique donc pas nécessairement qu'il y ait eu un événement particulier de *faire x* (20). Par exemple, dans le cas des noms de métiers comme *constructeur*, le nom dénote un statut, une disposition qui n'est pas nécessairement associée à l'exercice de l'activité dénotée par le verbe en question (ici, *construire des maisons*, par exemple) (20a). La lecture épisodique, en revanche, est celle qui implique qu'il y ait eu un *événement* particulier de *faire x* dans lequel l'individu dénoté ait été impliqué (21) :

- (20) a) *Le constructeur de maisons arrive dans un quart d'heure*
 b) *Le vendeur de journaux à la criée se tient au coin de la rue*
 c) *Le dresseur de lion(s) a changé Simba de cage*
- (21) a) *Le constructeur de cette maison arrive dans un quart d'heure*
 b) *Le vendeur du caisson l'avait acheté 180 euros il y a un an*
 c) *Le dresseur des trois lions du cirque prendra sa retraite bientôt*

À la lumière de ces exemples, il apparaît immédiatement que le changement de valeur de l'événement (épisodique vs dispositionnel) s'accompagne d'un changement visible de la nature syntaxique des arguments de N. Nous sommes en présence d'un groupe nominal à dénotation spécifique dans un cas, et d'indéfinis pluriel et singulier nus dans l'autre. Plus généralement, pour donner lieu à la lecture épisodique, l'argument doit être un GN spécifique (typiquement un DP défini, un possessif ou un nom propre), alors que la lecture dispositionnelle se manifeste en présence d'arguments non spécifiques (typiquement des noms indéfinis, singuliers nus ou pluriels nus⁸).

8. Nous notons que le français admet les singuliers et pluriels nus dans des contextes limités seulement, à savoir sous le gouvernement d'une préposition (*buveur de vin, boîte à musique, en construction*) et dans les prédicats complexes (*donner ordre, prendre note*), mais pas dans la phrase : **Paul boit vin, *Il dresse lions, *Il écoute musique*, contrairement à d'autres langues proches comme l'espagnol (*Pablo toma vino, Come caramelos*) ou même l'anglais (*Paul drinks soda, He*

Ceci n'est pas un hasard mais présente une situation tout à fait comparable à celle du niveau phrastique. Nous savons que les arguments spécifiques sont typiquement ceux qui peuvent donner lieu à une lecture épisodique (*Jean ne mange pas son pain*), alors que les arguments non-spécifiques donnent typiquement lieu à une lecture générique ou dispositionnelle (*Jean ne mange pas de pain*), certains groupes nominaux donnant lieu potentiellement aux deux lectures (*Le commissaire achète des cigarettes américaines*). Sur la base de ces faits, nous corrélons la lecture dispositionnelle des noms en *-eur* (classe 2) avec l'expression de la généricité dans la structure interne de la nominalisation.⁹ La lecture *dispositionnelle* surgit en présence d'une quantification générique sur les événements au sein du N, c'est-à-dire, plus concrètement, lorsque l'événement sous-jacent construit dans le nom implique un opérateur de généricité. Par extension, nous concluons que la généricité exprimée potentiellement dans l'événement dénoté par le groupe verbal sous-jacent peut être transmise à la nominalisation, ce qui appuie les conclusions de travaux récents sur les nominalisations qui ont montré que le nom peut hériter des propriétés sémantiques (par exemple aspectuelles – lexicales ou grammaticales) de la base sur laquelle il est construit (voir aussi, entre autres, Haas, Huyghe & Marín (2008), Alexiadou, Iordăchioaia & Soare (2010), Ferret, Soare & Villoing (2009) et Ferret & Villoing (2012)).

En soutien à cette conclusion, nous observons qu'au degré de spécificité dans la structure argumentale du groupe verbal servant de base à la nominalisation correspond le degré d'épisodicité vs généricité dans l'éventualité dénotée par le nom. Nous illustrons cette corrélation dans le tableau en (22) ci dessous :

(22)	DP			
	spécifique	>	>	non spécifique
	<i>ce verre / le verre / mon verre</i>	<i>des verres</i>	<i>des verres</i>	<i>du verre</i>

sales cars). Les noms nus régis par la préposition *de* dans le cas des noms dispositionnels entrent bien dans le cadre des constructions possibles en français.

9. La généricité inhérente dans les noms dispositionnels a, par conséquent, une source structurelle, étant construite de façon syntaxique au sein de ces noms et héritée des propriétés de l'éventualité sous-jacente. Il est nécessaire de distinguer cette généricité "interne", qui affecte la dénotation du nom lui-même, d'une généricité "externe" construite au niveau de la phrase, comme dans *Les lions ont des crinières* ; ici, il n'y a pas de généricité inhérente au nom *lion*, qui se trouve acquérir une interprétation générique dans le contexte du déterminant et par le prédicat caractérisant de la phrase générique. Dans un exemple comme *Un vendeur doit bien servir son client*, donc, nous devons distinguer deux niveaux de généricité : celle qui est inhérente au nom *vendeur*, et celle qui est donnée par le type de prédicat, la généricité externe de la phrase. Le nom *vendeur* reste générique (et donc interprété comme dispositionnel) même dans une phrase spécifique comme *Cette boutique vient d'embaucher un nouveau vendeur*.

Événement sous-jacent			
particulier	>	>	générique
épisodique			
[souffler ce verre / le verre / mon verre]	[souffler des verres]	[souffler des verres]	[souffler du verre]
Nominalisation			
épisodique	>	>	dispositionnelle
le souffleur de ce verre / du verre / de mon verre	le souffleur des verres	le souffleur de verres	le souffleur de verre

Pour ce qui est des noms qui apparaissent nus, c'est-à-dire sans argument interne apparent, ceux-ci sont des dispositionnels (23). L'absence d'argument explicite ne veut pas dire qu'aucun patient n'est réalisé. En effet, dans les exemples en (23), le patient est nécessairement présent, ce qui se voit à travers les contraintes de sélection des bases qui servent à la nominalisation.¹⁰ Par exemple, *dresser* concerne des animaux, et non des personnes, et on ne dit pas de quelqu'un qui "dresse" des enfants que c'est *un dresseur*, ce qui suggère que les bases qui servent d'input à une opération morphologique sont totalement spécifiées (voir aussi Fradin & Kerleroux (2003)), et donc soutient l'idée que les bases en (23) sont bien des verbes "complexes". Nous en concluons que l'argument interne inexprimé contribue à la généralité de la même façon que les indéfinis ou les noms nus, du fait de l'absence de spécificité explicite, comme attendu.

- (23) a) *Ce souffleur a fait attention à tous les détails*
 b) *Un vendeur doit bien servir son client*
 c) *L'acheteur veut avoir de meilleures garanties*

Il découle de notre discussion que le test des adjectifs *fréquent / constant / occasionnel* met en évidence non pas la présence d'un événement sous-jacent, mais bien celle d'un événement *particulier* (épisodique et ponctuel) par opposition à un événement générique. Cette analyse affine celle de Rappaport Hovav & Levin (1992) concernant la corrélation entre structure argumentale et caractère événementiel. Selon leur analyse, les modificateurs comme *fréquent* et *constant* ne devraient apparaître qu'en présence de la structure argumentale. Dans l'analyse que nous proposons, la lecture épisodique est corrélée à une structure argumentale *spécifique*, alors que la structure argumentale *non spécifique* donne lieu à une lecture générique. C'est donc seulement avec une lecture épisodique et une structure argumentale spécifique qu'on peut avoir les modificateurs *fréquent* et *constant*. Ceci peut être expliqué, puisqu'un événement

10. Cette remarque est due à un relecteur anonyme.

ne peut avoir lieu fréquemment ou constamment que s'il inclut une itération d'événements particuliers, donc épisodiques et pas génériques. La corrélation entre structure argumentale et événementialité doit être reformulée en termes d'une corrélation entre "arguments spécifiques" et "lecture épisodique" seulement. Nos conclusions se rapprochent en partie de celles d'Alexiadou & Schäfer (2010), pour qui une distinction doit être opérée, parmi les noms événementiels en *-er* de l'anglais, entre les noms épisodiques et les dispositionnels. Nous n'acceptons cependant cette distinction que pour les noms événementiels (c'est-à-dire nos classes 1 et 2, mais pas 3). Comme nous l'avons montré, les noms instrumentaux ne sont pas événementiels, et doivent être distingués des noms dispositionnels (voir section 2.2. ci-dessus).¹¹

Nous partageons avec Alexiadou & Schäfer (2010) l'idée que les inanimés et les dispositionnels, qui, pour eux, ne forment qu'une classe, ont des traits fondamentaux en commun. En particulier, ils ne peuvent pas exprimer des Agents. Mais ceci n'est qu'un artefact de la généralité. La généralité induit la stativité (dans les noms en *-eur* comme ailleurs, y compris au niveau phrastique – voir Carlson & Pelletier eds (1995) pour l'idée que les opérateurs génériques agissent comme des "stativiseurs"), ce qui veut dire que les noms dits "d'agent" en *-eur* ne sont véritablement agentifs qu'en (21) sous une lecture épisodique, mais pas en (20) et (23). En (20) et (23) le nom dénote l'argument externe d'un événement quantifié génériquement, et s'apparente donc davantage à des Sièges qu'à des Agents véritables. Dans ce cas, l'agentivité qui peut être perçue dans la lecture dispositionnelle n'est en fait qu'une implicature (il s'agit de la disposition à être l'agent dans un événement particulier s'il a effectivement lieu). Néanmoins, comme nous l'avons montré, une différence doit être faite entre des noms événementiels dispositionnels, qui induisent une lecture stative, et des noms complètement dénués d'événementialité. Notre typologie rend mieux compte du comportement des noms déverbaux en *-eur* que, à la fois, la typologie d'Alexiadou & Schäfer (2010), qui ne distingue que deux classes (à savoir noms événementiels épisodiques vs dispositionnels), et celle de Rappaport Hovav & Levin (1992), qui ne distingue que des noms d'"agent" et des noms d'instrument (non-événementiels).

11. Alexiadou & Schäfer (2010) veulent prouver la présence d'un événement dans les noms d'instrument sur la base de leur compatibilité avec le modificateur *rapide*. Cependant, l'adjectif *rapide* a un comportement particulier qui le rend compatible avec de nombreux autres noms, pas nécessairement déverbaux (cf., par exemple, *un film rapide*, *un café rapide*, etc.). La présence de l'événement ne peut être montrée, selon nous, que par la modification par *heureux*, *vieux*, *gros*, etc.

3. LES NOMS EN *-ANT*

Le français dispose d'une autre façon de former productivement des noms dénotant des participants sujets de l'action du verbe, à savoir par les formations en *-ant* : *gérant, trafiquant, attaquant, gagnant, soignant, écoutant*. Ces formes semblent, de prime abord, contredire l'hypothèse selon laquelle la lecture épisodique vs dispositionnelle des noms de participants peut être prédite sur la base de la structure interne des arguments. Nous montrerons ici que les noms en *-ant* sont en réalité formés sur un autre patron que les formations en *-eur* et ne réalisent pas directement les arguments d'un prédicat verbal, mais sont construits sur des structures phrastiques plus complexes, sources de leur différence.

3.1. *Propriétés des arguments et héritage sémantique*

Comme précédemment pour les noms en *-eur*, nous devons distinguer les noms en *-ant* liés à une éventualité sous-jacente des noms référentiels d'objet (la classe 3 : *un tranquillisant, un amincissant, le détachant, un cicatrisant, le stimulant*), qui ne renvoient, eux, à aucune éventualité sous-jacente. Rappelons que les noms événementiels (classes 1 et 2) se distinguent des noms d'objet référentiels en acceptant la modification par les adjectifs du type *heureux / gros / grand / vieux* ((24) vs (25)) :

- (24) a) *les (bien)heureux accompagnants des élus locaux*
 b) *un gros gagnant du loto*
 c) *les petits publiants*
 d) *les vieux aidants des malades de Parkinson*
- (25) **un vieux tranquillisant, *un gros amincissant, *le petit détachant, *un heureux cicatrisant*

Les créations nouvelles de noms en *-ant* animés apparaissent généralement sans arguments et sont souvent employées dans un sens générique (26) :

- (26) *les écoutants, le discutant, un aidant, les publiants, etc.*

Néanmoins, des occurrences existent dans lesquelles la structure argumentale de la base verbale est héritée par le nom, comme en (27)-(29) ci dessous. Lorsque c'est le cas, un argument non-spécifique est associé à la présence d'un événement sous-jacent générique dans la nominalisation en *-ant*, comme attendu si les noms en *-ant* présentent une quelconque similarité avec les noms en *-eur* (27). Nous pouvons dès lors formuler l'hypothèse que (27) illustre des *-ant* dispositionnels :

- (27) a) *Si le trafiquant d'iPad est retrouvé, il faudra le faire savoir*
 b) *L'enseignant de roumain sera en grève demain*
 c) *Un fabricant de meubles s'est installé avenue de Saint-Ouen*

Lorsque l'argument interne est spécifique, deux situations sont possibles, cependant : ou bien le nom en *-ant* est interprété en relation avec un événement sous-jacent épisodique (28), ou bien le nom en *-ant* reste lié à une éventualité sous-jacente générique (ou plus précisément habituelle, qui implique la répétition d'un événement particulier, et en ce sens doit être distinguée des dispositions) (29) :

- (28) a) *Le gagnant du gros lot n'a pas encore réclamé son prix*
 b) *Le discutant du dernier papier d'Umberto Eco a remis ses notes au comité*
 (29) a) *Le soignant d'Henri Gomez connaissait parfaitement sa réaction aux antibiotiques*
 b) *Les aidants des malades de la chambre 304 sont au conseil administratif*

Les exemples (29) posent un problème particulier, puisque, bien que les noms *le soignant d'Henri Gomez* et *les aidants des malades de la chambre 304* impliquent qu'un événement de *soigner* et d'*aider* a eu lieu (à la différence de (27)), celui-ci ne peut pas être compris comme épisodique, en dépit de la présence d'un patient défini spécifique (*Henri Gomez* et *les malades de la chambre 304*, respectivement). Ceci semble donc contredire la corrélation établie plus tôt, et sur la base des noms en *-eur*, entre spécificité des arguments et interprétation de la nominalisation (section 2.). Concrètement, le contraste dans l'interprétation de l'événement sous-jacent en (28) et (29) semble tenir essentiellement aux propriétés sémantiques et aspectuelles du verbe servant de base (*gagner / discuter* vs *soigner / aider*) et non pas uniquement à la nature des arguments.

Sans entrer ici dans les détails de la contribution des prédicats verbaux, nous notons que d'autres faits conduisent à la même conclusion. En particulier, considérons la distribution de la modification avec *fréquent / constant / occasionnel*, qui, dans le cadre des noms en *-eur*, teste le caractère épisodique de l'éventualité sous-jacente (classe 1). Les noms en *-ant* sont (parfois) compatibles avec une telle modification, ce qui suggère qu'ils peuvent impliquer une éventualité épisodique sous-jacente (30) :

- (30) a) *un fréquent militant contre la peine de mort*
 b) *un aidant occasionnel des malades de l'aile A*

Cependant, d'une part, la modification avec *fréquent*, *occasionnel* n'est pas possible avec les nominalisations en *-ant* construites sur des verbes d'achèvement, alors que ceux-ci donnent typiquement des nominalisations épisodiques. Par exemple, alors que *le gagnant du gros lot* ne peut être interprété qu'en relation à un événement épisodique sous-jacent de *gagner le gros lot* (et non pas à une dis-

position, voir (28a)), le contraste entre (31) et (30) ci-dessus est tout à fait inattendu dans ce contexte :

(31) **le gagnant occasionnel / fréquent du gros lot*

D'autre part, la modification par de tels adjectifs n'est pas conditionnée par la présence d'arguments internes spécifiques (cf. (32), et aussi (30a), ci-dessus).

(32) *un écoutant occasionnel de candidats au suicide*

Les contrastes décrits ci-dessus (exemples de (30) à (32)) suggèrent que ce n'est pas la nature spécifique ou non-spécifique de la structure argumentale seule (cf. (30a) et (32) vs (30b)), mais un ensemble de facteurs, dont le type aspectuel du prédicat impliqué (cf. (30) vs (31)), qui déterminent l'interprétation de la nominalisation en *-ant*.

3.2. Agentivité

D'autres propriétés semblent aussi distinguer les noms en *-ant* des noms en *-eur*. Les règles qui conditionnent la nominalisation en *-eur* vs *-ant* ne sont pas *a priori* triviales lorsque l'on considère des paires, comme (33) ci-dessous, qui opposent des formes souvent très proches du point de vue sémantique :

- (33) a) *un attaquant* vs *un défenseur*
 b) *un enseignant* vs *un chercheur*
 c) *un soignant* vs *un guérisseur*

La distribution et la contribution sémantique des deux types de nominalisations sont tout à fait différentes, cependant. Tout d'abord, il est important de noter que les noms en *-ant* nominalisent le *sujet* de la base verbale sous-jacente, et non pas seulement l'argument externe. Ainsi, ils peuvent prendre, à la différence des noms en *-eur* (voir ci-dessus), des bases inaccusatives :

- (34) a) *un habitant* vs **un habiteur*
 b) *un arrivant* vs **un arriveur*

Lorsqu'ils prennent des arguments externes, nous observons que les noms en *-ant* peuvent être dérivés sur des verbes de même classe aspectuelle que les noms en *-eur* (par exemple, des activités, des accomplissements). En particulier, tout comme les noms en *-eur*, ils peuvent dénoter des arguments externes souvent liés à un thème-rôle Agent dans la base verbale associée (35) :

- (35) *un fabricant, un trafiquant, un militant, un manifestant, un étudiant, un détaillant, le commandant, les apprenants, un manifestant, les militants, un soignant*

L'existence de paires telles que (36) suggère cependant que les deux types de formations nominales s'associent à des différences de sens :

- (36) a) *un accompagnateur* vs *un accompagnant*
 b) *un serveur / serviteur* vs *un servant*
 c) *un suiveur / successeur* vs *un suivant*
 d) *un exécuteur* vs *un exécutant*
 e) *un débiteur* vs *un débitant*

Les noms en *-ant* admettent aussi des bases statives ou de perception (37), ainsi que des verbes réfléchis (38), se distinguant en ceci encore des noms en *-eur* (données de Anscombe (2001)) :

- (37) a) *un voyant* vs #*un voyeur* (sens spécialisé uniquement, lié à "regarder intensément", verbe d'activité, et non pas à "voir", statif)
 b) *un débutant* vs #*un débuteur*
 c) *un apprenant* vs **un appreneur*
 d) *un savant* vs **un saveur*
 (38) a) *se défendre / un défendant* vs *défendre / un défenseur*
 b) *se plaindre / un plaignant* vs **un plaigneur*

Ces données suggèrent que la concurrence entre *-eur* et *-ant* n'est en fait que partielle et peut-être seulement apparente. Les véritables cas où une concurrence semble exister ont trait aux formations à partir de bases agentives dénotant des activités : *accompagnant / accompagnateur* (*accompagner*), *soignant / soigneur* (*soigner*), *servant / serveur* (*servir*). Avec d'autres bases verbales (inaccusatives, statives, perception), seule la formation en *-ant* est possible, comme nous l'avons vu ci-dessus.

En réalité, les paires *-ant / -eur* se distinguent par une propriété essentielle, à savoir que les noms en *-ant*, par opposition aux noms en *-eur*, pour lesquels une telle lecture est possible dans la classe 1 (voir section 2.), ne réalisent jamais de rôle Agent. Plus précisément, bien qu'ils expriment un sujet, ils n'expriment jamais un Agent, même lorsqu'ils sont construits sur des bases qui, elles, sont agentives.

Tout d'abord, les noms en *-ant* correspondent généralement à des thème-rôles non-agentifs, à savoir l'Expérient ou le Thème (pour les bases inaccusatives), puisqu'ils prennent des bases statives que les noms en *-eur* ne prennent pas :

- (39) a) *un mourant, un soupirant, un voyant* (Expérient)
 b) *un arrivant, un accédant, un gisant* (Thème)

Mais la différence la plus importante est que, contrairement à ces derniers, les noms en *-ant* ne peuvent jamais prendre de modifieurs orientés agent comme *délibéré, volontaire*¹², *intentionnel* :

12. Ici encore l'agrammaticalité renvoie bien à la lecture orientée vers l'agent et non pas à l'interprétation purement prédicative de l'adjectif, voir n. 5. De même en (41).

- (40) a) **un enseignant délibéré*
 b) **un accompagnant volontaire des enfants*
 c) **un manifestant intentionnel contre la peine de mort*

Bien qu'ils puissent être construits sur des verbes d'activité qui ont un agent inhérent (par exemple, *enseigner* (*enseignant*), *manifeste* (*manifestant*), *accompagner* (*accompagnant*), *trafiquer* (*trafiquant*), *soigner* (*soignant*)), l'agentivité disparaît dans la nominalisation, comme le montre (40). Il est important de noter que le contraste dans la distribution des adjectifs avec *-ant* / *-eur* est de nature véritablement grammaticale (et est liée à la forme morphologique du nom modifié) plutôt que sémantique (voir les paires en (41) ci-dessous). Par exemple, en (41a), alors que les prédicats *attaquer la vieille dame* et *agresser la vieille dame*, qui impliquent tous deux un agent, peuvent donner lieu à la modification adverbiale du type *attaquer délibérément la vieille dame* et *agresser délibérément la vieille dame*, seule la nominalisation en *-eur* associée à l'une de ces deux bases, et non pas celle en *-ant*, permet la modification adjectivale correspondante. De même dans les exemples (b) à (d) ci-dessous :

- (41) a) **un attaquant délibéré* vs *un agresseur délibéré de la vieille dame*
 b) **le fervent soignant* vs *le fervent guérisseur de la vieille dame*
 c) **un votant déterminé* vs *un électeur déterminé de Sarkozy*
 d) **des enseignants obstinés* vs *des chercheurs obstinés*

Comme les verbes *attaquer* / *soigner* / *voter* / *enseigner*, d'un côté, et *agresser* / *guérir* / *élire* / *chercher*, de l'autre côté, sont tout aussi agentifs, nous devons conclure que le contraste entre les deux nominalisations ne peut pas venir de différences associées à la base verbale sous-jacente, mais bien des différences entre les formes nominales elles-mêmes. Il est alors possible que le fait que les noms en *-ant* expriment des Expérientes (38) ne soit qu'un aspect d'un phénomène plus large qui restreint les noms en *-ant* à des sujets non-agentifs.

3.3. *Patrons de nominalisation*

Alors que les noms en *-eur* sont construits directement sur les groupes verbaux sous-jacents (voir section 2.), une telle hypothèse n'est pas possible pour les noms en *-ant*. En effet, la structure nominalisée doit nécessairement être plus large, de manière à englober le sujet d'une phrase (comme on le voit pour les noms en *-ant* dérivés sur des bases inaccusatives¹³). L'interprétation non-agentive de ces noms, alors même qu'ils sont dérivés parfois sur une base

13. Nous admettons que les sujets des verbes inaccusatifs sont des arguments internes déplacés en position de sujet, donc dans une position externe au groupe verbal. Voir aussi n. 2 dans l'« Introduction ».

indiscutablement agentive, indique également qu'ils ne peuvent pas être formés simplement sur des syntagmes verbaux incluant le verbe et ses arguments. En effet, si tel était le cas, la nominalisation de l'argument externe d'un verbe agentif ne pourrait être qu'un nom d'Agent. Par opposition, les propriétés des noms en *-ant*, à savoir (i) qu'ils réalisent des *sujets* seulement, (ii) qu'ils sont *non-agentifs* (même si construits sur des bases verbales agentives), tendent vers une analyse de ces nominalisations comme des dérivés de bases phrastiques. En d'autres termes, nous admettons que les noms en *-ant* sont dérivés sur une phrase participiale de nature prédicative (dont la dénotation est "qui a la propriété de V") et dont ils réalisent le sujet.

Cette différence majeure entre les noms en *-eur* (construits sur des groupes verbaux complexes) et les noms en *-ant* (construits sur des phrases entières de nature prédicative) s'accompagne d'une différence morphologique notable en ce qui concerne le statut des deux suffixes *-eur* et *-ant*. Alors que *-eur* peut raisonnablement être analysé comme un suffixe nominal, *-ant* est également une flexion participiale en français. Dans le premier cas, nous avons affaire à un véritable suffixe dérivationnel nominal ; dans le second cas, nous pouvons penser que la nominalisation est obtenue par conversion (ou suffixation d'un morphème nominal nul) sur une base verbale (participiale) dérivée en *-ant*.

L'hypothèse alternative d'une dérivation à partir d'une base adjectivale stative (proposée dans la littérature, entre autres, par Anscombe (2001)) est à exclure selon nous, du fait du nombre significatif de noms en *-ant* qui n'ont pas d'adjectif associé, comme par exemple *habitant* (**la personne habitante*) mais aussi *arrivant*, *fabricant*, *trafiquant*, *enseignant* (qui, même s'il peut acquérir un usage adjectival dans *l'équipe enseignante*, subit dans ce cas une recatégorisation : comparer avec **les adultes enseignants*). Par ailleurs, une source adjectivale devrait permettre, parfois, l'expression de degrés au sein de la nominalisation, comme c'est le cas dans *le bien-aimé*, *le très miséricordieux*. Ceci n'est pas attesté pour les noms en *-ant* : **les très publiants*, **le bien enseignant*.¹⁴

Nous relierons l'absence d'agentivité dans les noms en *-ant* à l'hypothèse d'une stativité sous-jacente induite par la prédication. Nous considérons que la stativité ainsi que la prédication sont associées à des niveaux structurels, mais ce n'est pas dans les objectifs de cet article de fournir une formalisation précise de ces différents niveaux.

Le nom en *-ant* résultant de la nominalisation ne peut dénoter que le Siège d'une propriété ou d'un état, et non plus un agent à proprement parler. Concrètement, *un soignant* renvoie donc à "celui qui a la propriété de soigner", et non pas "celui qui est en train de soigner", *un militant* à "celui qui a la propriété de militer", et non

14. Bien que *le bien-pensant* soit attesté, cette nominalisation renvoie à une échelle de valeurs (celui qui a la propriété de bien vs mal penser) et non pas à un degré de pensée (celui qui a la propriété de beaucoup penser).

pas “celui qui est en train de militer”, *un apprenant* à “celui qui a la propriété d’apprendre” et non pas “celui qui est en train d’apprendre”. Par conséquent, l’unique rôle thématique auquel un nom en *-ant* peut renvoyer est celui du Siège d’une propriété associée à la base verbale. Ceci veut dire que les noms en (38) ci-dessus n’expriment pas non plus des Expérients ou des Thèmes véritables (puisque les noms en *-ant* ne nominalisent pas des arguments du verbe), mais des sujets Sièges d’une propriété.

Notons enfin que les noms en *-ant* partagent des propriétés avec les prédicats statifs. Pour le montrer, nous adaptons le test de l’impératif de Lakoff (1966), pour le contexte des noms en *-ant* et *-eur*, avec la copule *être*. Une propriété bien connue des prédicats statifs est qu’ils ne sont jamais compatibles avec le mode impératif (cf. 42b). Comme le montre (43), alors que le contexte est admis par les noms en *-eur* épisodiques (classe 1), cf. (a), il est refusé par les noms en *-ant* (en présence ou non de structure argumentale), cf. (b), ce qui crée un parallélisme clair entre (42b) et (43b) :

- (42) a) *Embrasse Marie !*
 b) **Aime Marie !*
- (43) a) *Sois l’accompagnateur des enfants !*
 b) **Sois l’accompagnant (des enfants) !*

La conclusion à laquelle nous aboutissons est que les contraintes définies en section 2. portant sur la contribution de la nature (spécifique ou non-spécifique) de la structure argumentale dans l’interprétation (épisodique, dispositionnelle et d’objet référentiel) des noms “agentifs” sont valables uniquement pour les nominalisations *d’argument* d’un syntagme verbal complexe. Puisque les noms en *-ant* nominalisent des *sujets* d’une prédication, nous assistons à une redéfinition de leurs propriétés, mais dans des termes qui restent prédictibles : on observe en effet un héritage des propriétés aspectuelles englobées dans l’éventualité décrite par la phrase nominalisée. En revanche, nous nous attendons à ce que les généralisations établies pour les noms d’argument externe soient valables dans le cas d’autres noms d’argument, et en particulier les noms d’argument interne, comme nous allons le voir dans la section suivante.

4. NOMINALISATION DE L’ARGUMENT INTERNE EN *-É/-I/-U*

Nous avons établi en section 2. que la nature syntaxique des arguments internes peut jouer un rôle majeur dans l’interprétation de la nominalisation (lorsque celle-ci prend comme base un syntagme verbal complexe). Pour finir, nous nous intéressons aux propriétés des noms de participants aux événements en *-é/-i/-u*, homophones des participes passés, et qui dénotent des participants correspondant

à l'argument interne du verbe : *le détenu, le marié, un immigré, l'arrondi, un insoumis, un imprévu, un malvenu, un perdu*. Nous montrerons que le comportement et l'interprétation de ces noms sont exactement ce que nous devrions prédire.

Par hypothèse, les noms en *-é/-i/-u* doivent nécessairement réaliser la structure argumentale du verbe de base puisqu'ils *dénotent* le participant qui correspond à l'argument interne (Patient, Thème). Concrètement, donc, *le blessé* doit être dérivé d'un groupe verbal du type "[Agent_X] a blessé [Patient_Y]", où la nominalisation exprime *Y*.

- (44) a) *le détenu, un invité* (Patient)
 b) *les nouveaux venus, un insoumis* (Thème)

Alternativement, nous pourrions imaginer que le blessé soit *celui qui a été blessé*, ce qui suppose une structure passive et un état résultatif.¹⁵ Cependant, cette analyse ne peut s'appliquer aux nominalisations construites sur des prédicats intransitifs inaccusatifs comme *nouveaux venus*. Il semble donc préférable de considérer, comme nous le faisons ici, ces noms comme la réalisation de véritables arguments internes dans des constructions actives (voir aussi n. 17 ci-dessous).

Exprimant des arguments internes, ces noms sont généralement construits, comme nous pouvons l'attendre, sur des bases transitives (45a), intransitives avec *se* réfléchi (45b), ou inaccusatives (45c)¹⁶ :

- (45) a) *un blessé, le pendu*
 b) *la mariée, un vendu*
 c) *les nouveaux venus*

Il est nécessaire de distinguer, comme nous l'avons fait précédemment, une classe de noms dont l'interprétation est liée à un événement, et qui prend majoritairement des animés, et une classe de noms d'objets référentiels (classe 3), qui inclut des inanimés : *un arrondi, un sablé, un coupé*. Ces derniers n'admettent pas la modification par *heureux, grand, nouveau, gros, vieux*, etc. dans leur lecture orientée vers l'événement (46) :

- (46) a) *un grand blessé, un heureux élu, les nouveaux venus, un heureux imprévu*
 b) **un grand arrondi, *un gros sablé, *un nouveau coupé*

En ce qui concerne les noms événementiels, si nous étions dans un cas similaire à celui des noms en *-eur*, nous nous attendrions à ce que, lorsque l'objet *Y* nominalisé est spécifique, on obtienne une

15. Cette analyse alternative est due à un relecteur anonyme.

16. À la fois les nominalisations en *-ant* et les nominalisations en *-é/-i/-u* peuvent nominaliser l'argument interne des bases inaccusatives. Ceci est le cas parce que les noms en *-ant* peuvent exprimer des Thèmes sujets, et les noms en *-é/-i/-u* des Thèmes objets.

lecture épisodique, et lorsque l'objet est non-spécifique, on obtienne une lecture dispositionnelle. Ce qui veut dire que la nominalisation du Thème de *L'ennemi a blessé des soldats*, par exemple, donnerait lieu à une interprétation dispositionnelle de *les blessés* ("ceux qui ont la capacité d'être blessés"), alors que celle de *L'ennemi a blessé ce jeune homme*, par exemple, donnerait lieu à une lecture épisodique ("celui qui a été blessé"). Il apparaît immédiatement, cependant, et à la lumière de cette paire, que la lecture dispositionnelle n'est pas disponible. La nominalisation *un / le blessé* ne veut jamais dire "celui qui a la disposition d'être blessé". De même pour tous les autres nominaux déverbaux en *-é/-i/-u* : *la mariée* ne veut pas dire "une femme qui a la capacité d'être mariée", mais "la personne qui se marie" ; *les nouveaux venus* sont "ceux qui viennent d'arriver" ; *trois inconnus* sont "trois individus que je ne connais pas en ce moment". L'épisodicité de ces noms est maintenue même dans les contextes génériques du type *Un détenu est rarement heureux*.¹⁷ Ici, *détenu* reste épisodique : il ne renvoie pas à la personne qui a la disposition d'être détenue, mais bien à la personne qui est effectivement détenue.¹⁸ La lecture épisodique est indiquée par la possibilité de la modification adjectivale en *fréquent / occasionnel*¹⁹ :

- (47) a) *Un invité fréquent de Patrick Poivre d'Arvor a fait scandale à l'antenne*
 b) *Un détenu occasionnel de la prison de Fresnes s'est évadé ce matin*
 c) *Ces immigrants récents briguent la naturalisation*

Bien que surprenant au premier abord, le fait que la lecture dispositionnelle n'est jamais disponible est cependant ce à quoi nous devrions nous attendre, si on fait l'hypothèse que seuls les arguments *spécifiques* peuvent être nominalisés. Cette hypothèse fait sens lorsque l'on considère les noms d'argument externe en *-eur*. Dans ce cas aussi, l'argument qui est nominalisé ne peut être que spécifique, à savoir "le X qui fait V" (dans la lecture épisodique) ou "le X qui a la capacité de faire V" (dans la lecture dispositionnelle). En soi, un argument non-spécifique ne donne pas lieu à une nominalisation ; ceci est également vrai des noms de participants nominalisant l'argument interne ("le X qui subit V"). Ce qui se passe avec les arguments internes est donc similaire à ce que l'on voit pour les arguments externes.

À la lumière de cette analyse, deux facteurs, indépendants mais reliés, déterminent l'interprétation des nominalisations d'arguments,

17. Exemple invoqué par un relecteur anonyme.

18. À la différence des noms en *-eur* dispositionnels (voir n. 8, section 2.), qui ont une généricité inhérente, les noms en *-é/-i/-u* ont une épisodicité inhérente. Une fois encore, l'épisodicité interne est compatible avec des contextes génériques (où la généricité est construite au niveau de la phrase par la composition avec un prédicat caractérisant, par exemple).

19. L'exemple (47a) montre que les arguments externes des noms en *-é/-i/-u* ne sont pas introduits par la préposition *par*, mais par le *de* marqueur de génitif. Ceci confirme que ces noms ne peuvent pas être dérivés sur une base passive.

à savoir (i) la restriction sur les arguments spécifiques et (ii) la corrélation entre l'argument spécifique et le caractère épisodique. La conséquence, pour les noms d'argument interne, est que ceux-ci ne peuvent avoir qu'une lecture épisodique.

5. CONCLUSION

Cette étude des noms de participants à l'événement en *-eur*, *-ant* et *-é/-i/-u* en français a permis de montrer que la structure argumentale et l'interprétation événementielle sont étroitement liées dans les nominalisations et de proposer une analyse cohérente des propriétés qui déterminent leur interprétation. Plus particulièrement, nous avons défendu l'idée que l'épisodicité et la généralité peuvent être héritées par le nom, et que celles-ci ont une source structurelle, en rapport direct avec le type d'arguments qui accompagnent (ou non) le nom déverbal.

Nous avons distingué deux types d'interprétation événementielle, selon le type de modification adjectivale admise par ces noms : la classe des noms de participants épisodiques et la classe des noms de participants dispositionnels. Nous avons aussi montré qu'il serait incorrect de penser que tous les noms déverbaux sont liés à une interprétation événementielle, et nous avons ainsi abouti à une classification tripartite plus à même de rendre compte des propriétés de ces noms, que des typologies binaires antérieures (en particulier, Rappaport Hovav & Levin (1992) [animé]-[événementiel] ou Alexiadou & Schäfer (2010) [épisodique]-[dispositionnel]).

La structure argumentale se trouve effectivement jouer un rôle déterminant dans l'interprétation (épisodique, dispositionnelle) des noms de participants aux événements, mais va au-delà d'une simple corrélation bi-univoque entre structure argumentale et présence d'un événement sous-jacent (comme dans les termes de Grimshaw (1990) et Rappaport Hovav & Levin (1992)). On a pu en effet constater que dans le cas des noms en *-eur* et des noms en *-é/-i/-u*, la spécificité de la structure argumentale est en rapport direct avec la présence sous-jacente d'un événement plus ou moins particulier, et détermine les lectures respectives.

Crucialement, cependant, ces conclusions ne sont valables que pour les véritables arguments construits sur un syntagme verbal complexe. Pour les noms en *-ant*, qui sont des noms de sujets de prédication, il y a héritage à un certain niveau des propriétés aspectuelles de l'éventualité sous-jacente, mais aussi un changement d'interprétation en direction de la stativité. Nous avons proposé que ces noms sont des convertis de phrases participiales prédicatives, et non pas des noms d'arguments ; on s'attend donc à ce que la structure argumentale ne joue pas le même rôle dans l'interprétation obtenue. Cependant, l'interprétation stative laisse transparaître les propriétés de l'éventualité sous-jacente (épisodique ou habituelle).

Nous aboutissons ainsi à un système cohérent dont il est possible de tester les prédictions et qui permet de décrire l'ensemble des noms de participants étudiés ici. La question, cependant, de la validité de cette analyse à travers des langues proches reste ouverte pour des recherches futures.

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On the internal eventive properties of *-er* nominals

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Abstract

Deverbal *-er* nominals (*driver*, *lifesaver*, *blender*) may have eventive properties as they may or may not entail the occurrence of an actual event. For Rappaport Hovav and Levin (1992), eventivity is linked to animacy. More recent studies have concluded that eventivity is always present but comes in different aspectual flavors (e.g. episodic/dispositional, as in Alexiadou and Schäfer, 2010). This paper argues, on the basis of French data, that both views are partially correct in the sense that instruments, which are not animate, are never eventive, and that eventive nominals (always animate) fall into two groups depending on whether they involve an episodic event or a generic one. The eventive properties are demonstrated by the interpretation of *-er* Ns in combination with modifying adjectives, and specifically the event-related meanings of attributive adjectives (cf. Larson, 1998), a context often neglected by previous studies. For eventive nominals, the episodic/generic sense is contributed by the argument structure under the assumption that eventive nominals are built on complex verbal structure lacking with non-eventive Ns. We argue that *-er* nominals can be integrated in a larger view of deverbal nouns in a syntactic approach to complex word formation that distinguishes nouns derived from roots and argument structure nominals derived from full verbal phrases. Thus, we contribute to a view in which the correlation between event reading and argument structure (as commonly assumed for event-denoting deverbal nominals since Grimshaw, 1990) is uniformly maintained.

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1. Introduction: issues with *-er* nominals

The literature on deverbal *-er* nominals (Rappaport Hovav and Levin, 1992; Van Hout and Roeper, 1998; Alexiadou and Schäfer, 2010, among others) commonly distinguishes two classes: eventive nominals (*saver of lives*, *mower of the lawn*) and non-eventive nominals (*life-saver*, *lawn-mower*). The observed interpretive difference between the two classes concerns event entailment: nominals in the first class entail occurrence of an event; while nominals in the second class do not. For instance, it is often reported that while a *saver of lives* has necessarily saved lives, a *lifesaver* has not necessarily been engaged in any event of saving a life. In actuality, noneventive *-er* nominals have been considered to encompass both dispositional nouns (*life-saver*, *lawn-mower*) and instruments (*mixer*, *blender*, *grinder*), for which an eventive reading is also excluded. In both cases, the entity denoted by the nominal is trained or designed for a function but does not have to be involved in an actual event (cf. Alexiadou and Schäfer, 2010's *dispositional reading* and McIntyre, 2011's *purpose interpretation*).

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A second standard assumption regarding *-er* nominals is that the eventive reading correlates with the obligatory presence of argument structure. As shown by Rappaport Hovav and Levin (1992), the eventive reading, forced by event-related modifiers like the adjectives *constant*, *frequent* in (1), is correlated with argument realization (via the insertion of an argumental *of*-phrase). Hence, while phrasal formations such as *mower of the lawn*, *saver of lives* receive an eventive interpretation, synthetic compounds such as *lawn mower*, *lifesaver*, *firefighter*, which do not involve an argument, never allow the eventive interpretation (see also Borer, 2012).

- (1) a. People will probably re-elect the constant defender *(of the government's policies).
 b. A frequent consumer *(of tobacco) buys more than 3 packs a week.
 c. A (*frequent) teacher/a (*frequent) firefighter is the head of our school.

As expected, (inanimate) instrument *-er* nominals, which do not have an argument structure, also lack an eventive reading, as attested by their incompatibility with event-oriented adjectival modification.

- (2) a. Our only transmitter (*to headquarters) had broken down.
 b. The (*frequent) transmitter produces strong radio waves.

According to this description, *-er* nominals further instantiate the long-acknowledged correlation between event interpretation and argument structure, in the context of process-denoting vs. result deverbal nominals more generally (cf. Grimshaw, 1990). The literature on deverbal nominalizations consensually assumes a two-fold partition between 'Complex Event' nominals and 'Result' nominals (Grimshaw, 1990), and subsequent work, later re-named 'Argument-Structure' nominals (AS-Ns) and 'Referential'-nominals (R-Ns) by Borer (1999, 2005a), a terminology we will adopt in this paper. The availability of an eventive reading for deverbal nominals has been shown to correlate with the projection of argument structure; both present with AS-Ns and absent with R-Ns. Event modifiers like *constant*, *frequent*, *in three hours*, agent-oriented adjectives like *deliberate*, *intentional* or the presence of *by*-phrases render the realization of the arguments obligatory; cf. (3). In turn, in (4), in the absence of argument structure, event-oriented modifiers become impossible:

- (3) AS-nominals
 a. the frequent expression *(of one's feeling) is desirable.
 b. the instructor's deliberate examination *(of the papers) took a long time.
 c. the examination *(of aggressive feelings) by patients.
 d. the examination *(of the cat) in three hours.
- (4) R-nominals
 a. the (*frequent) examination *(of the papers) was on the table.
 b. the (*deliberate) exam *(of the students).
 c. the exam *(by linguists) was on the table.
 d. the expression *(of her feelings) *(in a second) on her face.

In syntactic approaches to deverbal nominal formation, the correlation between eventive interpretation and obligatory argument structure is captured by assigning different structural representations to AS-Ns and R-Ns. The eventive reading with AS-Ns is brought in by a full-fledged verbal structure inherited from the underlying verbal (hence eventive) structure. Borer (2003, 2005b), for instance, implements the correlation between event structure and argument structure by proposing that arguments are introduced by functional heads, one of which is also responsible for introducing the event variable. In this paper, we will by and large adopt Borer's framework, but see Alexiadou (2001); Van Hout and Roeper (1998) among others for alternative implementations. In the structure of AS-Ns (5a), AspEv introduces the external argument and AspQ the internal one, likewise severed from the root. AspEv is responsible for introducing the event variable *e*. R-Ns in (5b), are built directly from a root, and thus present no verbal/aspectual layers, which captures both the lack of the eventive reading and the lack of arguments.

- (5) a. AS-nominals:

$$[DP/NP \ N \ [_{AspEvP} \ [_{AspEv} \ -ation] \ [_{AspQP} \ [_{AspQ}] \ [_{rootP} \ form]]]]$$
e
- b. R-nominals:

$$[DP/NP \ N \ -ation \ [_{rootP} \ form]]$$

Returning to *-er* nominals: as stated above, earlier descriptions have argued that the eventive reading patterns with phrasal *-er* nominals while the non-eventive reading patterns with compounds (Rappaport Hovav and Levin, 1992). If this is

correct, the correspondence between event reading and argument realization seems to hold as well, and, as we shall argue, it appears reasonable to extend the distinction between AS-N vs. R-Ns in (5) to *-er* nominals.¹ The recent literature has mostly abandoned the distinction, however, and for sometimes completely divergent reasons. For [Alexiadou and Schäfer \(2010\)](#), all derived *-er* nominals are eventive; some are episodic and others are dispositional. Instruments are analyzed as dispositional eventive Ns. The arguments put forth by Alexiadou and Schäfer come from interpretation and morphology. Specifically, they argue that the overt verbal derivational morphology found in some derived instruments; e.g., *humid-ify_V-er*; and the fact that instruments always express thematic roles in the theta-grid of the nominalized predicate are evidence for an underlying verb, and hence for an eventive meaning. [Alexiadou and Schäfer \(2010\)](#) further argue that the sole difference between episodic and dispositional nominals (including instruments) is in the kind of aspectual head they involve (episodic vs. dispositional), and which is responsible for the actual/non-actual event reading in their interpretation. What matters, then, for distinguishing *lifesaver* and *saver of lives*, from their perspective, is not whether the arguments are projected or not—as, by assumption, they always are—but whether the projected arguments are specific (leading to the episodic interpretation) or generic (leading to the dispositional interpretation). We reproduce their structures in (6).

- (6) a. episodic Ns
 [n_P -er [AspP Asp-EPIS [VoiceP [vP [RootP]]]]]
 b. dispositional Ns
 [n_P -er [AspP Asp-DISPO [VoiceP [vP [RootP]]]]]

Other recent works on *-er* nominals argue for the opposite view that all *-er* nominals are non-eventive ([Baker and Vinokurova, 2009](#); [Borer, 2012, 2013](#)). This view is supported by the incompatibility of *-er* nominals with some modifiers standardly taken as diagnostics for grammatical event inside AS-Ns. One such modifier is the aspectual *in/for*-PP, considered a robust indication for grammatical eventivity inside nominals since [Grimshaw \(1990\)](#). According to this criterion, verbal structure *is* present in AS-Ns (7); but must be absent in *-er* nominals (8). (Examples from [Borer, 2012](#)).

- (7) The breaking of the door (by Mary) (in seven minutes) (in order to retrieve the luggage).
 (8) The breaker of the door (*in seven minutes) (*in order to retrieve the luggage).

The fact has also been reported in [Alexiadou \(2001\)](#) for Greek, who suggests, however, that the contrast might only be related to the different denotation of the derived nominal (individual vs. event). A formal account based on the shared intuition that individual/event denotations play a crucial role in allowing PP modification is developed in [Roy and Soare \(2013\)](#). We refer the reader to this paper for details.

- (9) a. *O katharistis tu ktiriu epi ena mina telika apolithike.
 the cleaner the-Gen building for a month finally got.fired.
 b. *I damastes ton fotonion mesa se/ gia enan eona.
 the tamers the-Gen photons within for a century

Another proposed test for underlying verbal structure is adverbial modification. [Baker and Vinokurova \(2009\)](#) argue, on the basis of the distribution of adverbs such as *quickly*, that while gerunds and (eventive) *-ing* nominals do have verbal (hence eventive) properties (10), *-er* nominals, which reject such modification, are not built on verbal structure (11).

- (10) Finding the wallet (so quickly) was a big relief.
 (11) The finder of the wallet (*quickly) returned it to the front desk.

We object, however, that by this test, event-denoting AS-Ns should also be excluded from having event structure (cf. (12)). In (12), the ungrammaticality of the adverbial *quickly* conflicts with the realization of argument and temporal *in/for*-PPs, which we take as indicating, instead, that adverbials are not a proper test for events inside nominals.

- (12) The destruction (*so quickly) of the city by the enemy (in seven minutes).

Verbal gerunds as in (10) have a more articulated sentential structure than event-denoting AS-Ns (e.g., *-ation* in (12)) and other derived nominals for that matter. For instance, they presumably involve a non-finite inflectional (tense/aspect) layer, lacking in deverbal nominals (cf. [Abney, 1987](#), and subsequent literature; as well as [Grimshaw, 1990](#), and [Borer, 2005b](#),

¹ Incidentally, note that the correlation holds for deadjectival nominals as well, with a stative eventuality; cf. [Roy \(2010\)](#).

and references therein on nominalized gerunds). It is plausible that adverbs relate to these sentential projections; cf. sentential nominalizations in Malagasy, for instance, which do accept adverbs (Ntelitheos, 2012).

Contra the views presented above, this paper argues, on the basis of French, that *-er* nominals fall into distinct classes according to whether they involve an event or not and whether, when they express an event, it is episodic or dispositional (cf. also Roy and Soare, 2012).² More specifically, we will argue for a three-way partition between (a) instruments that are never associated with an event meaning, and eventive nominals that can express (b) episodic or (c) dispositional events (building on the semantic distinction between episodic vs. dispositional nominals from Alexiadou and Schäfer, 2008, 2010). Structurally, we argue that instruments belong to the class of R-Ns, and hence are root-based structures involving a bare root and the nominalizing head *-eur* (14). These nominals do not have an argument structure since they lack a verbal structure:

- (13) ventilateur, aspirateur, mixeur, diffuseur
 ventilator suck.ator mix.er difuse.er
 'ventilator', 'vacuum cleaner', 'mixer', 'diffuser'

- (14) [DP/NP N *-eur* [rootP]]

By contrast, French has true eventive participant nominals for which we assume a full verbal structure as in (16), similar to (5a) above. For event related participant nominals, the affix *-eur* realizes a true argument position, namely, the external argument.³

- (15) a. le conducteur de trains le dresseur de lions; le souffleur de verre
 the driver of trains the tamer of lions the blower of glass
 'the train driver'; 'the lion tamer'; 'the glass blower'
 b. le conducteur du train; l'entraîneur de l'équipe de France; l'acheteur de ma voiture
 the driver of the train the trainer of the team of France the buyer of my car
 'the driver of this train'; 'the trainer of the French team'; 'the buyer of my car'

- (16) [DP/NP N [AspEvP *-eur* [AspEv e] [AspQP DP_{object} [AspQ] [rootP *conduct-*]]]]

We further argue that the structure in (16) is shared by both dispositional and episodic nominals (along the lines of Alexiadou and Schäfer, 2010), on the basis of event-related adjectival modification. The interpretational difference between the two relates to the type of event description they involve, whether a particular event (leading to the episodic reading) or a generic event (leading to the dispositional reading). Internal arguments play, we will show, a crucial role in bringing about genericity.

Our arguments are based primarily on adjectival modification, a context that, to the best of our knowledge, has never been discussed in detail in the literature on derived nominals, even though frequency adjectives are generally considered a standard test for grammatical eventivity inside nominals since Grimshaw (1990). We focus here on two classes of event-related adjectives: frequency adjectives (Grimshaw, 1990, and subsequent literature), and the non-intersective adjectives with event-related readings as discussed in Larson (1998). As shown by the following contrasts, *-eur* nominals exhibit heterogeneous behavior with respect to event-related adjectival modification that suggests that some but not all may involve an underlying event.

- (17) a. un acheteur fréquent de nos voitures
 a buyer frequent of our cars
 'a frequent buyer of our cars'
 → frequently buys our cars.
 b. *un aspirateur fréquent de la poussière
 a suck.ator frequent of the dust
 intended: 'a frequent vacuum-cleaner of dust'

² So-called "*-er* nominals" are realized in French with the suffix *-eur*. We will use the English label to refer to this class of nominals cross-linguistically.

³ The well-known generalization according to which *-er* nominals denote not only 'agent' nominals but participants with quite different theta-roles, as long as they are assigned to the external argument (*teacher* (agent); *diffuser* (theme); *admirer* (experiencer); *holder* (holder); *receiver* (beneficiary) – see Fabb, 1984; Keyser and Roeper, 1984; Rappaport Hovav and Levin, 1992; Van Hout and Roeper, 1998) is directly captured in this account. We leave open, however, the exact operation that will link the *-er/-eur* suffix (in our analysis a constituent and not a head) with the N position.

- (18) a. un grand consommateur de drogue
 a big consumer of drug
 'a big drug consumer'
 → consumes a lot of drug.
- b. un grand/gros mixeur
 a big blender
 'a big blender'
 → blends much.

Moreover, derivation from a verb appears to be an important factor in allowing event-related adjectival modification, since *-eur* nominals that are not derived from verbs (e.g. *docteur* 'doctor') and nominals derived from non-verbal bases (e.g., *fleuriste* 'florist') systematically reject such modification.

- (19) a. *un fréquent/constant docteur
 a frequent constant doctor
- b. un grand fleuriste
 a big florist
 → flowers much/acts as a florist much.

The simple paradigms in (17)–(19) show that the adjectival modification issue cannot be disregarded without ignoring important properties of *-er* nominals, compared to other classes of derived or non-derived nominals that can be interpreted as event-related or not.

The paper is organized as follows. Section 2 offers a detailed discussion of event-related adjectival modification (*frequent*-type and *big*-type adjectives), and shows that among the various readings they give rise to, only one, namely the internal reading, is relevant as a test for a grammatical event inside derived nominals. In section 3, we argue, on the basis of the distribution and interpretation of adjectival modifiers, that French *-eur* nominals (and *-er* nominals more generally) are split into two distinct but coherent groups depending on whether they allow internal readings. Inanimate and non-derived animate *-eur* nominals belong to the class of non-eventive nominals. Only derived animate *-eur* nouns exhibit internal eventive properties. Section 4 addresses the class of eventive *-er* nominals and argues for a further distinction between nominals expressing episodic events vs. dispositions, as well as the role of argument structure (and more specifically internal arguments) in bringing about the episodic/dispositional semantics. We argue for a strong mapping between internal eventive properties and structure. Finally, section 5 presents our conclusions.

2. Event-related adjectives and the nouns they modify

In the recent literature, event-related meanings of English *-er* nominals have been invoked in relation to adjectival modification in the context of (i) frequency adjectives (FAs): *frequent*, *constant*, *occasional* (in particular, Larson, 1998, and Gehrke and McNally, 2012) and (ii) adjectives such as *big*, *small*, *happy*, *old*, *skillful*, *quick*, *main*, *just*, which have been discussed in the literature as being nonintersective with event-related readings (cf. Larson, 1998, and references therein). The latter do not represent a natural semantic class, and may have various meanings (duration, manner, quantity); we will refer to them as the *big*-type adjectives (BAs). Some but not all will prove relevant for our discussion.

In order to use event-related adjectives as evidence for eventivity inside nominals, we first need to consider their semantic properties. Event-related adjectives in general present a high degree of ambiguity. It is common, for instance, that the modification expressed by the adjective applies at the sentential level (cf. the adverbial interpretation in *An occasional sailor strolled by*) or at a lower level (cf. the adverbial interpretation in *This claim has been made by an occasional sailor*). However, it is precisely because they present such ambiguities that FAs and BAs will constitute an important criterion in diagnosing internal event-properties with derived nominals. Existing works on event-related adjectives commonly distinguish two types of interpretations: internal vs. external readings (cf. Larson, 1998, for instance). Intuitively, under the internal reading, the adjective applies to some event inside the nominal itself. For instance, in *the frequent destruction of the city by the enemy* the adjective 'frequent' modifies the destroying event. By contrast, with external readings the modification applies to some event outside the nominal. One such example is the adverbial reading in *An occasional sailor strolled by*: here the adjective 'occasional' modifies the sailor's strolling by and *not* a sailing event. Only the internal reading is the hallmark for an event inside a nominal, which we will refer to as the internal event.

In the literature, FA modification (e.g., *frequent*, *constant*, *occasional*) has been standardly considered to support the correlation between eventivity and argument structure projection, as it entails, in the case of (at least some) *-er* nominals, the realization of argument structure (cf. [Rappaport Hovav and Levin, 1992](#)).

- (20) a. the constant defender *(of the government's policies)
b. a frequent consumer *(of tobacco)

In that respect, the *-er* nominals in (20) behave like eventive AS-Ns, cf. (21):

- (21) a. the frequent/constant defense *(of the government's policies)
b. a frequent/constant consumption *(of tobacco)

It has been noted, however, that FAs are also possible with so-called *simple event nominals* (SENs; [Grimshaw, 1990](#)), which do not force the realization of argument structure. Although SENs are arguably eventive (i.e., they name events), their lack of arguments indicates that they do not involve a verbal base, and are therefore R-Ns rather than AS-Ns (see also [Borer, 1999](#), and subsequent works). Examples as in (22) have often been taken as evidence that FAs can modify all sorts of nominals, including R-Ns, and are not exclusively constructed with AS-Ns (cf. [Meinschaefer, 2005](#); [Snyder, 1998](#), for instance).

- (22) a frequent trip to Paris; an occasional visit; a weekly dinner; her daily beer; etc.

However, on further analysis it becomes clear that SENs only serve to illustrate differences among several kinds of FAs. As already mentioned, these adjectives are ambiguous between an internal and an external reading. Building on this distinction, [Gehrke and McNally \(2012\)](#) have further argued that FAs have at least three distinct interpretations: the *adverbial reading*, the *generic reading* and the *internal reading*, illustrated in (23a,b,c), respectively. (The adverbial and the generic readings are subsumed under the external reading in [Larson, 1998](#).)

- (23) a. An occasional sailor strolled by.
b. The/An occasional beer is good for you.
c. This claim has been made by an occasional/frequent sailor.

The adverbial interpretation, as in (a), obtains when the FA outscopes the entire sentence and acts as a modifier for the main predication. Sentence (23a) means 'Occasionally, some sailor strolled by'; and the adjective plays the role of a sentential adverb. We will henceforth call this reading the *sentential-adverbial reading*. The generic interpretation, as in (b), is possible when the FA modifies any common noun, provided that it has a generic or a kind interpretation (i.e., it is *not* a token; compare with **This occasional beer is good for you*). FAs with a generic interpretation outscope the kind/generic nominal. Sentence (23b) is paraphrasable by 'A beer on an occasional basis is good for you'.

In neither the sentential-adverbial nor the generic reading do FAs apply to an internal event inside nominals. The only reading that signals an event inside nominals is the internal reading, as in (c). The internal reading is the one paraphrasable by a full verb (upon which the nominal is, by assumption, derived) and an adverb. In (23c) *an occasional/frequent sailor_N* is equivalent to 'someone who sails_v occasionally/frequently'. This sentence cannot mean either that 'Occasionally/Frequently, this claim has been made by a sailor' (sentential-adverbial reading), or that 'A sailor on an occasional/frequent basis makes this claim' (generic reading). Instead the adjective expresses the meaning of an adverb scooping over the verb inside the derived nominal.⁴

Importantly, the internal reading is also the one that shows up with eventive AS-Ns more generally (cf. [Grimshaw, 1990](#); [Alexiadou, 2001](#); among others):

- (24) a. the frequent sailing of the boat by John
→ John frequently sails the boat.
b. the frequent expression of one's feelings
→ one frequently expresses one's feelings.
c. the constant destruction of old quarters
→ old quarters are constantly destroyed.

The evident parallel between (24a) and (23c) emphasizes the similarity between eventive AS-Ns and at least some *-er* nominals; this point will be addressed in detail in the next sections.

⁴ The internal reading is referred to as the *deadverbial reading* by [Stump \(1981\)](#).

Crucially, however, when FAs modify SENs, it is never under the internal interpretation (cf. (25a)). FAs with SENs either lead to the generic reading (25b), or are legitimated by a plural (25c). Plurality plays a crucial role in licensing frequency modification in (25c): in order to be sortally compatible with *frequent*, the (conceptual) event denoted by the SEN (here, concert) needs to be iterated. Iteration is expressed by a morphological plural (recall that SENs belong to R-Ns and thus are root-derived nominals); the FA scopes over the plural nominal and hence, expresses an external reading rather than an internal one.

- (25) a. Her occasional concert charmed the audience.
 → her occasionally giving a concert, charmed the audience.
 b. An occasional concert is good for you.
 → occasionally, a concert is good for you.
 c. Her frequent trips to Paris please her.
 → her trips to Paris on a frequent basis please her.

Plurality is not required in the case of AS-Ns with internal FAs (cf. (24)), because in that case iteration is expressed by the internal eventive (or aspectual) layers (cf. [Iordăchioaia and Soare, 2008](#); [Alexiadou et al., 2010](#)). In other words, for a derived nominal to allow for FA-modification with the internal reading, the nominal must be built on a verbal, and therefore eventive, structure. This is the case for AS-Ns (*destruction, examination, singing*) but not for SENs (*concert, exam, movie*). Hence, to test for the internal event-properties of nominals, we will thereafter retain singular nouns only, as plurality is always associated with an external event.

Turning to French, we find that FAs support the same generalizations. FAs in construction with a singular noun can have an internal interpretation if and only if the nominal they modify is an AS-N as in (26) and not a SEN as in (27) (where the plural would otherwise be needed).

- (26) La destruction fréquente de la ville par les ennemis a duré des années.
 the destruction frequent of the city by the enemies has lasted some years
 ‘the frequent destruction of the city by the enemy lasted for years.’

- (27) a. *Jean avait arrêté la/ sa visite fréquente à sa mère.
 John had stopped the his visit frequent to his mother
 b. Jean avait arrêté ses visites fréquentes à sa mère.
 John had stopped his visits frequent.pl to his mother
 ‘John had stopped his frequent visits to his mother.’

The ungrammaticality of (27a) contrasts with the grammaticality of cases like (28b). As argued for English above, this contrast only illustrates the different grammaticality conditions for internal vs. external readings. French FAs with SENs (and other nominals that do not support an argument structure) can have a generic reading, which, as in English, imposes strict constraints on the choice of the article; compare (28a) and (28b).⁵

- (28) a. *On ne peut pas s’accommoder du logement occasionnel.
 one not can Neg se.accommodate of.the accommodation occasional
 b. On ne peut pas s’accommoder d’un logement occasionnel.
 one not can Neg se.accommodate of.an accommodation occasional
 ‘No one can put up with an occasional accommodation.’

French also has another external reading of FAs (different from the generic reading and not reported for English), as exemplified in (29). Here the FA is interpreted as modifying an external predication, suggesting that the construction involves at some level a (hidden) small clause. *De rares passants* ‘rare passers-by’ is paraphrasable as ‘the passers-by are rare’ and *not* as ‘rarely passing-by people’. The scope of the FA is, thus, over the passers-by (i.e. the full nominal in a

⁵ As argued by [Gehrke and McNally \(2012\)](#), internal and generic readings of FAs impose different restrictions on determiners: internal FAs modify Ns that can be introduced by the full range of determiners (cf., *the/this/any frequent consumer, the/this/any occasional sailor*); while generic FAs modify nouns that can only be introduced by a generic determiner (cf., **This/*Any/An/The occasional beer is good for you*). This extends to the French data in (28) as well. Despite this similarity, we also note the existence of idiosyncrasies in the distribution of the generic reading in French as compared to English (see (i)):

- (i) a. *une bière/ un verre de vin occasionnel(le) vs. b. une cigarette occasionnelle
 a beer a glass of wine occasional a cigarette occasional
 ‘an occasional beer/glass of wine’; ‘an occasional cigarette’

predication inside a small clause) and not over the passings (i.e., the internal event). The FA in (29), accordingly, lacks the internal reading.

- (29) De rares passants nous donnaient le bonjour.
 some rare passers-by us gave the good-day
 'Rare passers-by greeted us.'

Compare the predicative reading in (29) with the internal reading in (30), where *travailleurs occasionnels* is only interpreted as 'people who work occasionally'.⁶

- (30) Ce travailleur occasionnel n'a pas de sécurité sociale.
 this worker occasional not.has Neg of security social
 'This occasional worker does not have social security.'

In sum, FAs may have three interpretations in both French and English, among which only one interpretation, namely Gehrke and McNally's internal case, diagnoses internal event properties.

The same logic must be applied to BAs (*big, happy, old, beautiful, ...*): here, too, we need to carefully pick out the internal event reading, and set aside the external ones. BAs have been argued by Larson (1998) to be systematically ambiguous between an intersective and a non-intersective reading, the latter associated with an event-related meaning. The ambiguity shows up most commonly with deverbal *-er* nominals. For instance, the well-known example in (31) is often cited as having a possible interpretation where the adjective is associated with an event reading: *beautiful* is ambiguous between a reading where it applies to the subject Olga (intersective) (a) and a reading where it applies to Olga *qua* dancer/Olga's dancing (non-intersective) (b). Larson argues that non-intersective adjectives are akin to VP adverbial modifiers, and he consequently analyzes them as modifiers of events (in a Davidsonian approach to event semantics; cf. Davidson, 1967), leading to the event-related interpretation in (b).⁷ In contrast, the intersective reading is not eventive, cf. (a):

- (31) Olga is a beautiful dancer.
 a. Olga is a dancer and Olga is beautiful.
 dancer(x,e) & beautiful(x)
 b. Olga is beautiful as a dancer/Olga dances beautifully.
 dancer(x,e) & beautiful(e)

As Larson points out, non-intersective readings can potentially be either internal (when the modification applies to an event inside the nominal) or external (when the modification applies to some level above the NP). This contrast is strongly reminiscent of the external vs. internal event readings of FAs; and as in the case of FAs, the BAs that can prove relevant for diagnosing internal event properties inside nominals are those that are non-intersective and internal. In the case of *beautiful dancer* in (31b) *beautiful* has an internal reading as it modifies the dancing (i.e., *beautiful dancer* means 'someone who dances beautifully'). In turn, however, many non-intersective uses of BAs are associated with external readings. Two main cases should be discussed in this light. The first one concerns adjectives like *former, rightful* in English and *ancien* 'former' (lit. old), *vrai* 'true' in French which only have the sentential-adverbial reading or at least a high adverbial reading; cf. (32)–(33) (also Larson, 1998; and see references therein). Here the adverbial meaning is associated with a predication and outscopes the nominal. Crucially, *former president* does not mean 'someone who presided formerly' but 'someone who formerly was a president'. BAs as in (32)–(33) cannot be used to test internal event properties.

- (32) a. a former restaurant
 → formerly was a restaurant.

⁶ French FAs systematically lack the sentential-adverbial reading (ia); in which context, a true sentential adverb is commonly needed (b):

- (i) a. *Un marin occasionnel passait sur les quais.
 a sailor occasional strolled on the quays
 intended: 'An occasional sailor strolled on the quays.'
 b. Occasionnellement, un marin passait sur les quais.
 'Occasionally a sailor strolled on the quays'

⁷ For Larson (1998) simple nouns like *president* also involve an event variable: president(x,e). We differ in assuming that only complex deverbal nouns may involve an event inherited from the verb. The reason we can have, e.g. *former president* is because *former* modifies the state/situation of BE-ing a president. See the restrictions on *former*, below.

- b. my former teacher
→ formerly was my teacher.
- c. my rightful inheritance
→ rightfully is my inheritance.
- (33) a. un ancien voisin
an old neighbour
→ formerly was a neighbor.
- b. un vrai génie
a true genius
→ truly is a genius.

The other external reading of non-intersective BAs concerns the generic reading; see (34), for English, and (35) for French. With the generic reading, the BA outscopes the kind denotation of the nominal, as contributed by the determiner, rather than a putative event inside the nominal itself.

- (34) a. A good father is not so hard to find.
b. A skillful doctor knows how to write a prescription.
- (35) a. Un diplomate habile aurait résolu cette crise bien vite.
a diplomat skillful would.have resolved this crisis well fast
'A skillful diplomat would have resolve the crisis quickly.'
- b. une maman attentive observe toujours ce genre de choses.
an attentive mother observes always this kind of things
'An attentive mother always observes this kind of things'

Even though the generic meaning is not disputable in (34)–(35), we find that these examples do not always show the expected determiner restrictions with generic/kind nominals (36). The grammaticality of (36) seems to suggest that a non-intersective reading is possible with non-derived nominals such as *diplomate* 'diplomat' and *mère* 'mother', that is neither the generic nor the sentential-adverbial reading (and hence possibly is an internal one).

- (36) a. Ce diplomate habile a résolu la crise.
this diplomat skillful has resolved the crisis
'This skillful diplomat resolved the crisis.'
- b. Cette mère attentive a observé le problème.
this mother careful has observed the problem
'This careful mother has observed the problem.'

In this context, we note that the non-intersective reading of *skillful*, *punctual*, *careful*, and so on, is generally conditioned by the predicative position. As a matter of fact, the non-intersective reading is most commonly found and illustrated with predicative uses, as in (37). (Note that in predicative position the contrast between generic/sentential-adverbial/internal reading is not relevant.)

- (37) a. She is a skillful mother; He is a punctual guest; etc.
b. C'est une mère attentive; C'est un invité ponctuel; etc.
she.is a mother careful he.is a guest punctual
→ skillful as a mother. → punctual as a guest.

However, when the BA-N construals are used in argument position (either subject or object), we find that the non-intersective reading systematically disappears, and only the intersective one is possible (38)–(39).

- (38) a. The three skillful mothers organized a big fundraiser.
→ skillful persons & mothers
b. As we waited for Max to arrive, I served drinks to my punctual guests.
→ punctual persons & my guests

- c. This punctual doctor gave me an appointment at 3:15 tomorrow.
→ punctual person & my doctor
- (39) a. Les trois mamans attentives ont organisé la fête de l'école.
the three mothers careful have organized the party of the school
'The three careful mothers have organized the school party.'
→ careful persons & mothers
- b. Ce parquet a été entretenu par un homme soigneux /habile.
this wooden-floor has been maintained by a man careful skillful
'This wooden floor has been maintained by a careful/skillful man.'
→ careful/skillful person & a man
- c. Mes amis ponctuels ont sonné à la porte à midi.
my friends punctual have rang at the door at noon
'My punctual friends rang the door at noon.'
→ punctual persons & my friends

It is thus plausible that in (37), the event/eventuality-related interpretation of the non-intersective BAs comes from the predication rather than the nominal itself. Assuming, as in Bowers (1993) and Svenonius (1994), that the predication is established via the mediation of a functional head Pred (responsible for introducing the external argument), and that Pred is associated with an event variable (Roy, 2006, 2013), *skillful* may modify the (stative) eventuality of, e.g. being a mother, even when *mother* itself does not contribute an event.

If this is correct, the apparent cases of argumental BA-N construals with non-intersective readings in (36) ought to be reanalyzed as instances of predicative uses. The reason we can have a non-intersective reading for 'ce diplomate habile' in (36a), for instance, is because it is underlyingly predicative, as in other cases of non-intersective BAs (37). Sentence (36a) is paraphrasable by 'this person is a skillful diplomat & she resolved the crisis'. As in the case of other predicative uses, the generic/sentential-adverbial/internal reading distinction is not relevant and the restrictions on determiners in (34–35), expected with the generic reading, are blurred. The predicative use cannot be used to test for the internal reading and thus also needs to be excluded.⁸

In sum, the three types of readings identified by Gehrke and McNally for FAs (internal/sentential-adverbial/generic) are also found with non-intersective BAs. Among these three readings (for both FAs and BAs), only the internal reading diagnoses internal event-properties inside nominals and can be used as a test for complex event deverbal nominals. For BAs, in addition, the intersective reading must also be carefully excluded as it does not relate to an event reading. Predicative uses also proved irrelevant as they involve a distinct eventuality associated with the predication relation.

In the next section, we will apply the internal event reading test to *-er* nominals in order to demonstrate that some but not all have internal event properties. As we will show, not all (derived and non-derived) *-er* nominals behave like *dancer* in *a beautiful dancer*. We will argue for a distinction that supports a complex event structure in some cases and a bare root derivation in others.

3. Eventive interpretation and structures

This section is concerned with the distribution of the internal reading of event-related adjectives across derived and non-derived *-er* nominals. With the results of section 2 in mind, let us first consider the distribution of FAs. First, we observe that animate French deverbal *-eur* nominals may sometimes allow for the internal reading of FAs:

- (40) a. Un consommateur fréquent de cette marque italienne nous a donné une opinion valable.
a consumer frequent of this brand Italian us has given an opinion valuable
'A frequent consumer of this Italian brand gave us a valuable opinion.'
- b. Le conducteur occasionnel de ce camion est en prison.
the driver occasional of this truck is in jail
'The occasional driver of this truck is in jail.'
- c. Un utilisateur constant de cette crème risque des brûlures profondes.
a user constant of this cream risks some burns deep
'A constant user of this cream risks developing deep burns.'

⁸ Incidentally, note that the predicative issue does not arise with FAs, as they do not have a predicative use but an attributive one only:

(i) *This destruction is frequent; *Her beer is daily; *The visits are constant; etc.

We also note that, FA internal modification becomes impossible when the nominals in (40) are substituted by non-derived nominals in (41):

- (41) *Un docteur/ pianiste/ boucher fréquent/ constant/ occasionnel occupe cette boutique.
 a doctor pianist butcher frequent constant occasional occupies this store

This contrast sets a clear parallel between the derived animate *-eur* nominals in (40) and AS-Ns more generally, cf. (42), suggesting that in both cases, the internal reading of FAs arises when they modify an underlying event inside the derived nominal. For the internal reading to arise, it presupposes that the nominal is morphologically derived and involves a verb; we take this as an indication that at least some *-er* nominals are derived from verbs (while others are not, as we shall argue below).

- (42) a. la consommation fréquente d'alcool nuit gravement à la santé.
 the consumption frequent of.alcohol impairs gravely to the health
 'the frequent consumption of alcohol seriously impairs one's health.'
 b. L'utilisation fréquente/ constante de ce produit peut altérer les couleurs.
 the.use-ation frequent constant of this product may alter the colors
 'The frequent/constant use of this product may alter colors.'

According to the observed parallel between (40) and (42), we propose that the *-er* nominals in (40) are a type of AS-N, with the structure in (43):

- (43) [DP/NP N [AspEvP *-er* [AspEv *e*] [AspQP DP_{object} [AspQ] [rootP]]]]

However, we further note, however, that all derived *-eur* nominals are not equal in allowing FA internal modification. More concretely, two types of *-eur* nominals reject such modification: the animate nominals in (44) and the instruments in (45). The forms in (44) differ from those in (40) in expressing dispositions rather than a participant in an actual event; as already mentioned, e.g., *un vendeur de voiture* 'a car-dealer' need not have sold any cars. The forms in (45) denote instruments and, hence, are inanimate.

- (44) a. Un consommateur (*fréquent) de marques italiennes nous a donné une opinion valable.
 a consumer frequent of brands Italian us has given an opinion valuable
 'A (*frequent) consumer of Italian brands gave us a valuable opinion.'
 b. Le conducteur (*occasionnel) de camion est en prison.
 the driver occasional of truck is in jail
 'The (*occasional) truck-driver is in jail.'
 c. Un utilisateur (*fréquent/ *constant) de crème risque des brûlures profondes.
 a user frequent constant of cream risks some burns deep
 'A (*frequent/ *constant) cream-user risks developing deep burns.'
- (45) a. Un émetteur (*fréquent) a été volé.
 a transmitter frequent has been stolen
 'A (*frequent) transmitter has been stolen'
 b. Notre (*constant) broyeur de végétaux (*occasionnel) est en panne.
 our constant shredder of plants occasional is out.of.service
 'Our (*constant/*occasional) plant shredder is out of service.'

A possible hypothesis to account for the common behavior of dispositional Ns and instruments in (44)/(45) would be that, since they are incompatible with FA internal modification, they both belong to the class of R-Ns, on a par with non-derived Ns. This would mean that [Alexiadou and Schäfer \(2010\)](#) are right in grouping dispositions and instruments together; but that they are wrong in assigning them a complex AS-N structure. It would also mean that animacy does not straightforwardly match with eventivity, as some animate nouns, namely dispositions, would be non-eventive (contra [Rappaport Hovav and Levin, 1992](#)).

In actuality, however, we note that dispositions and instruments are not alike when it comes to the second type of adjectival modification, namely, BA modification. While dispositions do accept BA internal modification

(see (51) below), instruments do not. Instruments systematically preclude BAs and FAs alike (cf. (45) above and (46)).

- (46) a. J'ai acheté un petit photocopieur.
I.have bought a small photocopy-er
'I bought a small copy machine.'
→ a copy-machine that makes few copies.
- b. Nous avons trouvé un gros broyeur.
we have found a big grinder
'We've found a big grinder'
→ a tiny machine that grinds much.

Attested uses of event-related adjectives with instruments concern predicative uses only, which we have argued are not informative for internal event-properties inside nominals (see section 2). The event related meaning of the adjective, present in (47), is absent in (46):

- (47) a. Cette machine est un broyeur occasionnel de légumes.
this machine is a crusher occasional of vegetables
→ occasionally crushes vegetables.
- b. Cette (petite) machine est un gros broyeur.
this (tiny) machine is a big grinder
→ tiny machine but grinds much.

We conclude from the above facts that instruments form a coherent and distinct class both from a semantic and from a syntactic point of view (contra [Alexiadou and Schäfer, 2010](#)). Semantically, we conclude that they never name an (inanimate) participant in an event. Structurally, we analyze them as instances of R-Ns; i.e., nominals derived directly from roots, and not associated with an underlying verb (48).⁹

- (48) [DP/NP N -er [_{root}P]]

By opposition, dispositions are compatible with BA internal modification.

- (49) a. Un heureux/ gros consommateur de LSD court des risques importants.
a happy big user of LSD runs some risks important.pl
'A happy/big user of LSD runs important risks.'
→ people who consume LSD happily/much.
- b. Un petit vendeur de voitures paye moins d'impôts.
a small seller of cars pays less taxes
'A small car-dealer pays less taxes.'
→ one who doesn't sale cars much/sale few cars.

In that respect, dispositional Ns (49) are clearly different from instruments (46). Despite the fact that dispositional nominals do not accept FA internal modification, they do involve a certain form of eventivity. We take the compatibility of dispositional nominals with BA internal modification as evidence for an internal event, by assumption associated with the verbal base. As opposed to instruments (48), we therefore analyze, dispositional -er nominals as instances of AS-Ns with the structure in (43), repeated below in (50), on a par with other animate -er nominals. (The nature of the contrast between animate -er nominals that do or do not allow FAs remains to be explained, and is addressed in the next section).

⁹ The verbal morphology sometimes found with instruments (e.g., *humid-ify-er*) is not an argument in favor of a verbal structure inside instruments (contra [Alexiadou and Schäfer, 2008, 2010](#)). The verbalizing/causative role of the *-izel-ify* morphemes, invoked in the literature, is not clear, as their presence is not necessarily associated with compositional causative meaning. Consider for instance, French *atomiseur* (lit. atom-iz-er) 'a spray'; *vaporisateur* (lit. vapor-iz-ator) 'a spray'; *vérificateur d'orthographe* (lit. ver-ifi-cator of orthography) 'a speller/spellchecker'. Similar examples with derived adjectives and verbs are e.g. *métallisé* 'metallized', *diplomatiser* 'act as a diplomat' (for the last example, see [Martin and Piñón, 2013](#)).

(50) [DP/NP N [AspEvP -er [AspEv e] [AspQP DP_{object} [AspQ] [rootP]]]] (same as (43))

Our analysis predicts, correctly, that nominals not derived from a verbal base as *docteur* ‘doctor’, *pianiste* ‘pianist’, *boucher* ‘butcher’, will behave like instruments in rejecting both BA and FA internal modification (while dispositional Ns accept BAs; compare (49) with (51)):

(51) Un gros/ heureux docteur/ pianiste/ boucher s’est installé dans ma rue.
 a big happy doctor pianist butcher se.is installed in my street
 ‘A big/happy doctor/pianist/butcher settled on my street’
 → someone who doctors/plays piano/butchers much/happily.

(52) Un fleuriste/ jardinier/ pompier (*fréquent/ *constant) m’a sauvé la vie.
 a florist gardener firefighter frequent constant me.has saved the life
 ‘A florist/gardener/firefighter (*frequent/*constant) saved my life’

Importantly, existing analyses of *-er* nominals fail to account for the observed distributional patterns of event-related adjectives. The difference in acceptability between instruments (46) vs. derived *-er* dispositions (49) cannot be explained in accounts where all derived *-er* nominals would be treated as non-eventive on a par with instruments (cf. Baker and Vinokurova, 2009; Borer, 2012, 2013). If dispositions were non-eventive, BA internal modification should not be possible, since the internal event-related reading applies to an internal event by assumption lacking with R-Ns. Similarly, such accounts would also fail to predict the observed contrast between derived *-er* dispositions (49) vs. non-derived dispositions (52). Again, if all *-er* nominals were R-Ns, derivation from a verb should not matter as verbs are by assumption absent with R-Ns. Moreover, Alexiadou and Schäfer (2008, 2010) also fail to predict the restrictions on event related adjectives noted with instruments, since they analyze *-er* nominals as a homogeneous class with event properties.

Turning to argument realization, it is important to observe that the representation for instruments in (48) preserves the well-established correlation between the absence of event and the absence of argument structure. Instruments can never project arguments since they are not built on a verbal base but on a (bare) root. This can be shown by the impossibility to express a definite argument in a complement *de*-phrase (53) (on the argumental status of French genitives, see, in particular, Milner, 1982 and Kolliakou, 1999)¹⁰:

(53) a. L’aspirateur (*de la poussière) n’a pas bien fonctionné.
 the.suck-ator of the dust not.has Neg well functioned
 ‘The vacuum-cleaner (*of the dust) didn’t function properly.’
 b. Le photocopieur (*de l’article) a vraiment été très efficace.
 the copy-er of the.article has really been very efficient
 ‘The copy-machine (*of the article) has been really efficient.’

Evidently, not all *de*-phrases are barred with instruments in French, but grammatical cases involve a bare noun instead of a definite DP, cf. (54). We take these cases to involve a mere modifier and not real arguments (because of the ungrammaticality of arguments in (53)). While French uses *de*-phrases both for arguments and modifiers, the latter are systematically realized as synthetic compounds in English instead of phrasal *-er* nominals:

(54) a. concasseur de maïs; distributeur de cartes; absorbeur de neutrons
 crusher of corn distributor of cards absorber of neutrons
 b. corn crusher; card distributor; neutrons absorber

So, if synthetic compounds are any indication in English, we would expect them to always be non-eventive (since they correspond to the modifier *de*-NPs in French). We agree with Borer (2012) that English synthetic compounds do not have, and are not expected to have, properties of grammatical event. This should generalize to all synthetic compounds, including those expressing dispositions (e.g. *truck-driver*, *firefighter*, *story-teller*). Consequently, we predict a difference between English dispositions expressed by non-eventive compounds, and French dispositions expressed by eventive AS-Ns. Pending further investigation of English data, we note that this prediction seems to be on the right track, as French dispositions *can* realize (oblique) arguments; while English compounds never do (55):

¹⁰ We thank an anonymous reviewer for pointing this fact out to us.

- (55) a. le conteur d'histoires aux enfants vs. the story-teller (*to (the) kids)
 the teller of stories to the kids
 b. les conducteurs de camion vers Paris vs. truck-drivers (*to Paris)
 the drivers of truck to Paris
 c. un mangeur de riz avec des baguettes vs. a rice-eater (*with sticks)
 an eater of rice with some sticks

Having established the existence of two types of *-er* nominals, namely root-derived and verb-derived nominals, and that the two types correlate with (the absence vs. presence of) event entailment and argument structure realization, in a framework that assumes complex verbal structure for event nominals, we now turn to the realization of arguments with *-er* AS-Ns. Eventive *-er* nominals call for a more detailed discussion as they do not behave as a homogeneous group with respect to BA modifications, with implications for their argument structure. This will be addressed in the next section.

4. Episodic/dispositional semantics and argument structure

We have argued so far that all animate derived *-er* nominals have eventive properties and hence, by assumption, are derived from a verb. They do not form a homogeneous group, however, as some but not all accept FA internal modification, while BA internal modification is always possible. To account for the existence of these two classes, we adopt Alexiadou and Schäfer (2010)'s distinction between *episodic* and *dispositional* nominals. Episodic nominals, illustrated in (56), are those that relate to a particular underlying event of, e.g. building/selling/training. On the other hand, dispositional nominals do not involve a particular event, but rather a generic one; see (57).

- (56) a. Le constructeur de cette maison arrive dans un quart d'heure.
 the builder of this house arrives in a quarter of hour
 'The builder of this house will arrive in 15 minutes.'
 b. Le vendeur du caisson l'avait acheté 180 euros il y a un an.
 the seller of the box it had bought 180 euros there is a year
 'The seller of the box had bought it for 180 euros a year ago.'
 c. Le dresseur des trois lions du cirque prendra sa retraite bientôt.
 the trainer of the three lions of the circus will take his retiring soon
 'The trainer of the circus' three lions will retire soon.'
- (57) a. Le constructeur de maisons arrive dans un quart d'heure.
 the builder of houses arrives in a quarter of hour
 'The house-builder will arrive in 15 minutes.'
 b. Le vendeur de journaux se tient au coin de la rue.
 the seller of newspapers self stands at the corner of the street
 'The newspaper seller is standing at the corner of the street.'
 c. Le dresseur de lion(s) a changé Simba de cage.
 the trainer of lion(s) has changed Simba of cage
 'The lion trainer has changed Simba's cage.'

We analyze episodic and dispositional nominals as AS-Ns, i.e. as having argument structure (cf. (50)). Crucially, then, we take the *de*-phrases in (56)/(57) to realize an argument and not a mere modifier of the noun, as opposed to the *de*-phrase found with instruments. In the case of specific *de*-phrases (cf. 56), their argumental status is generally accepted. The claim that non-specific *de*-phrases in (57) are also arguments is more controversial, however. In particular, we need to show that the *de*-phrases in (57) are different from the *de*-phrases that can be constructed with instruments (as in (54)), despite the fact that both are (only) non-specific. A further issue is that dispositional Ns can sometimes lack *de*-phrases altogether.

Two facts point in the direction of a different status for the *de*-phrases with dispositions vs. instruments. First, *de*-phrases with instruments have the same interpretation as purpose *à*-phrases in, for instance *machine à laver* 'washing machine', *broyeur à feuilles* 'leaf shredder'; and hence are generally substitutable by an *à*-phrase (58). With dispositional Ns, no such substitution is observed (59). The ungrammaticality of (59b) is expected if dispositions are constructed with an argument, as arguments are genitives introduced by *de* (cf. Milner, 1982).

- (58) a. broyeur de végétaux b. broyeur à végétaux
 shredder of plants shredder at/for plants
 'plant shredder' 'plant shredder'
- (59) a. dresseur de lions b. *dresseur à lions
 tamer of lions tamer at/for lions
 'lion tamer'

Second, *de*-phrases with instruments are always optional (e.g., *broyeur* 'shredder', *mixeur* 'blender', *ventilateur* 'fan'). While our world knowledge commonly associates instruments with human activities, this information is not grammatically encoded, and in that respect, *-eur* instruments are not different from e.g. *radio* 'radio', *voiture* 'car', *téléphone* 'phone', for which the issue of argument structure does not even arise. With the dispositional *-eur* nominals, however, when omitted (if it is possible at all; i.e. not in (60a)), the *de*-phrase is always implicit on a par with cognate objects (60b).

- (60) a. souffleur *(de verre); laveur *(de carreaux); etc.
 blower of glass washer of windows
 b. vendeur; consommateur; conducteur; etc.
 seller consumer driver

In sum, on the one hand, the *de*-phrases found with instruments are always optional and substitutable by other prepositions. On the other hand, the *de*-phrases found with dispositional Ns are always realized (but can be implicit) and they are not substitutable. Hence, we analyze the former as PP modifiers and the latter as arguments, which in the case of dispositions are only non-specific. The contrast between modifier *de*-PPs and arguments can be cast in terms of property-denoting *de*-PPs (for modifiers) vs. individual-denoting *de*-phrases (for arguments) (see [Kolliakou, 1999](#) for a detailed discussion), hence deriving the different specificity conditions. Both properties and individuals can be non-specific, while only individuals can be specific.

Returning to the paradigm in (56) and (57), we argue that the distinction between episodic and dispositional nominals is correlated with different treatments of argument structure. We note that, in the above sets of examples, the episodic meaning is available with specific internal arguments only (definite expressions, demonstratives, etc.) as in (56). The dispositional meaning, on the other hand, arises with non-specific arguments (bare singulars, indefinite plurals, etc.), as in (57). Remaining agnostic as to how genericity is brought about in the clause, the properties of argument structure in *-eur* AS-Ns mirror those at the clausal level: a systematic correlation is observed between the underlying eventuality type (particular vs. generic) and the interpretation of the derived nominal. The episodicity vs. genericity of the event, we claim (and here we depart from [Alexiadou and Schäfer, 2010](#)), is co-extensive with the (non-)specificity of the internal argument. This is visible in the paradigm in (56) and (57), and further illustrated by the examples below, where the decrease in specificity in the DP clearly correlates with a lower degree of 'concreteness/particularity' of the events expressed in the VP, and with decreasing episodicity (and hence increasing dispositional character) in the resulting nominalization. Specificity may have different sources (for instance, through the determiner system, but also the presence of modifiers), which we are not discussing. We are only concerned, here, with how specificity (or its absence) affects the interpretation of the verbal phrase (and hence the event) and translates into the derived nominals. Cf. (61)–(63).

- (61) a. Particular event (specific DP object)
 souffler ce/ le/ mon verre
 blow this the my glass
 b. Episodic *-eur* N
 le souffleur de ce/ du/ de mon verre
 the blower of this of.the of my glass

- (62) a. Particular event (specific quantity object)
 souffler des verres
 blow of.the glasses
 'blow some (specific) glasses'
 b. Episodic *-eur* N
 le souffleur des verres
 the blower of.the glasses
 'the blower of the glasses'

- (63) a. Non-particular event (non-specific quantity object)¹¹
 souffler des verres
 blow of.the glasses
 'blow glasses'
- b. Dispositional *-eur* N
 le souffleur de verres
 the blower of glasses
 'the blower of glasses'
- (64) a. Non-particular event (non-specific mass object)
 souffler du verre
 blow of.the glass
 'blow glasses'
- b. Dispositional *-eur* N
 le souffleur de verre
 the blower of glass
 'the blower of glass/glass-blower'

The examples in (61)–(64) show that the event semantic properties of the animate *-eur* nominals are straightforwardly inherited from the underlying verbal phrase. This could not be explained if these nominals were not derived from an actual verbal phrase. The correlation between the internal event structure and the interpretation of the nominalization is a strong additional argument, we suggest, in favor of analyzing them as AS-Ns and not as R-Ns.

Structurally, we assume that the source of the episodic vs. dispositional meaning for derived animate *-er* nominals lies in the type of quantification over the internal event variable. In the representation in (52) we therefore distinguish two cases, depending on whether the event variable introduced by AspEv is quantified over by the existential or by the generic operator, leading to the episodic vs. dispositional interpretation, respectively (cf. (65) vs. (66)).

(65) episodic nominals
 \exists [DP/NP N [AspEvP *-er* [AspEv *e*] [AspQP DP_{specific} [AspQ] [rootP]]]]

(66) dispositional nominals
 GEN [DP/NP N [AspEvP *-er* [AspEv *e*] [AspQP DP_{non-specific} [AspQ] [rootP]]]]

In sum, the correlation established by Grimshaw (1990); Rappaport Hovav and Levin (1992) between the obligatory realization of argument structure and the event interpretation, needs to be restated, in the context of *-er* nominals, in terms of a correlation between 'specific' arguments and 'episodic' reading. It is not the presence vs. absence of argument structure altogether, since episodic and dispositional *-er* nominals are both AS-Ns, but the nature of the arguments that matters in determining the episodic/dispositional reading.

5. Conclusion

To conclude, adjectival modification provides important tests for event properties inside derived *-er* nominals once we tease apart the internal reading of adjectives, which is the only one associated with an internal event. It is not sufficient to look at the distribution of adjectives without also considering their semantic properties in particular contexts. We have argued that the classes of derived *-er* nominals that arise from the distribution of these adjectives (under the internal reading) can only be accounted for in a syntactic approach to *-er* nominal formation. Any account that assumes no eventive structure inside *-er* nominals will fail to explain the observed distribution of event-related adjectival modification. In turn, accounts that assume event structure for all *-er* nominals will also fail to explain the particular behavior of instruments vs. animate derived nominals. As we have shown, clear contrasts are also attested between derived and non-derived forms, further supporting an analysis that accepts distinct classes of *-er* nominals, some pertaining to AS-Ns (with event related properties and argument structure), others to R-Ns (lacking these properties). Furthermore, it follows

¹¹ The *inner* genericity contributed by the nature of the internal argument in dispositional nominals inside the NP is to be distinguished from the *outer* genericity brought in by the determiner system at the DP level (e.g., *my best car-dealer/car dealers*, both dispositional Ns). The interaction between the two types of genericity, as well as the interaction between inner genericity and the semantics of the underlying predicate, need to be better understood. We leave these issues open for future research.

from our view that the important correlation between event interpretation and argument realization is uniformly maintained across event-denoting (e.g., *-ation* nominals) and individual-denoting nominals (i.e., *-er* nominals).

Another important result of our study concerns dispositions. According to the distinct behavior of dispositional *-eur/-er* nouns in French and English, respectively, it appears that the dispositional sense can be associated with rather different (complex) structures. French dispositions (*mangeur de riz; conducteurs de camions*) are phrasal and manifest argument structure properties. The dispositional meaning comes from generic quantification over the internal event. The situation is quite different with English synthetic compounds (*rice eater, truck-driver*). There, the nominal is not derived from a verb, and hence does not involve any argument-structure. Following Borer (2012), synthetic compounds are ‘simple’ nominalizations of roots, where the nominal (e.g., *rice, truck*) acts as a modifier. This view is compatible with our results and sheds some light on the issue of what dispositions are, from a structural perspective. Semantically, however, the dispositional meaning remains poorly understood, especially since in English it is not compositionally derived.

Finally, we have also argued that genericity can be structurally built up inside nominalizations. Recent studies at the interface between syntax and semantics point to the idea that derived nominals may inherit or contribute much finer event-related distinctions than originally thought, in terms, for instance, of aspect (perfectivity, telicity; cf. Haas et al., 2008; Alexiadou et al., 2010; Knittel, 2011, among others) and event internal structure more generally (Sichel, 2010). This, we believe, extends to genericity as well (cf. also Alexiadou and Schäfer, 2010).

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Les noms d'humains dérivés de participes: nominalisations en *-ant* et *-é/i/u*

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Résumé

Cet article aborde la question des noms d'humains dérivés de participes, à savoir les noms déverbaux en *-ant* et en *-é/i/u*, dans une approche syntaxique à la formation des mots. Dans ce type d'approche, les déverbaux comme ceux en *-age*, *-ment*, *-tion*, pourvus d'une interprétation événementielle et d'une structure argumentale, héritent des propriétés syntaxiques de leur base verbale, propriétés introduites au sein d'une structure verbale complexe qui est responsable à la fois de l'interprétation événementielle et de la projection de la structure argumentale. Dans des travaux récents, cette corrélation a été mise en avant également pour les noms dits « agentifs » animés en *-eur*, qui dénotent non pas des procès mais des participants à des procès. Ici, notre but est de soulever la question d'une telle corrélation au sein des noms qui ne sont pas dérivés avec des affixes mais sur une structure participiale. Nous passons en revue leurs propriétés et proposons des analyses de nature syntaxique, en montrant que des dérivations différentes sont responsables de leurs propriétés respectives : tandis que les déverbaux construits sur le participe présent supposent une couche structurelle supplémentaire de nature prédicative, les noms en *-é/i/u* sont directement construits sur les participes passés dont ils nominalisent l'argument interne. Nous établissons également une distinction entre les noms humains de participants, qui ont des propriétés événementielles, et les noms d'instruments ou produits, qui en sont dépourvus. Cette distinction traverse l'ensemble des noms déverbaux de participants puisqu'elle est également valable au sein des déverbaux en *-eur*.

1 Introduction

Dans une approche syntaxique à la formation des mots, la littérature traitant des noms déverbaux depuis Grimshaw (1990) plaide en faveur d'une correspondance entre l'interprétation événementielle et la structure interne du nominal. Celle-ci sera complexe et impliquera des niveaux typiquement verbaux dans le cas des noms avec des propriétés événementielles (par exemple, *la construction de la cathédrale en vingt ans par les habitants du village*, qui admet à la fois des modificateurs aspectuels et la réalisation des arguments), et simple, dépourvue de tels niveaux, dans le cas des noms qui dénotent des objets, ou référentiels (par exemple, *cette construction est impressionnante*). Les études sur les noms déverbaux s'accordent à établir une corrélation entre structure complexe comportant des niveaux verbaux et interprétation événementielle; cette corrélation étant vérifiée par la projection de la structure argumentale, alliée à la présence de modification orientée vers l'événement. De tels comportements ont été documentés aussi bien dans le cas des noms qui dénotent des processus comme les noms en *-tion* et *-age* (selon ce qui est proposé dans l'ensemble de la littérature à partir de Grimshaw (1990); voir en particulier Alexiadou (2001), Borer (1999), parmi beaucoup d'autres), que dans le cas des noms d'individus en *-eur* (cf. aussi plus bas).

- (1) a. La construction de cet immeuble par une entreprise spécialisée en une semaine a fait l'objet d'un article dans la presse locale.
- b. L'assemblage du moteur par cette équipe en moins de dix minutes a valu un diplôme de mérite à notre entreprise.

(2) Le conducteur du train de 18h53 a commis une grave erreur qui a causé le déraillement du train.

Les noms en *-eur* ont fait l'objet récemment d'études dans cette perspective, avec comme résultat que, pour une partie de ces noms tout au moins, à l'image des déverbaux événementiels complexes, la présence d'un événement résulte de la contribution de la structure grammaticale (voir Rappaport Hovav & Levin, 1992 ; Alexiadou & Schäfer, 2008 ; 2010 ; Roy & Soare, 2012 ; 2013b). Ainsi, *le conducteur du train de 18h53* en (2) implique un événement particulier de conduire le train de 18h53 ; cette dénotation d'événement particulier trouve une source structurale dans le groupe verbal sur lequel le nom est dérivé. Voir les travaux cités pour une discussion détaillée.

Ces noms ont en commun de dériver directement de verbes. Nous nous proposons d'étudier dans cet article une autre classe de noms d'individus, potentiellement caractérisée par la présence d'un événement dans la structure, à savoir les noms dérivés de formes participiales, qui impliquent aussi une forme verbale mais d'un type particulier. La question qui se pose est, de même que dans les dérivés affixaux, de dégager l'existence de propriétés événementielles, et de définir dans quelle mesure celles-ci s'apparentent à celles des déverbaux affixaux en *-eur*. En prenant comme point de départ la dérivation sur une forme participiale, on peut s'attendre soit à l'affaiblissement des propriétés événementielles du nominal, par le fait que le participe a un caractère verbal diminué ou réduit, soit à l'héritage de ces propriétés. Dans l'approche que nous adoptons ici, le degré d'événementialité découle de la structure fine du domaine nominalisé, où chaque niveau structurel est associé à une contribution sémantique spécifique. Nous montrerons que la structure des dérivés participiaux n'est pas homogène. En particulier, les dérivés en *-ant* (par exemple, *un habitant, un consultant, un enseignant, un discutant*) sont à distinguer de ceux en *-é/i/u* (par exemple, *un blessé, un banni, un pendu*) non seulement sur le plan de l'interprétation mais aussi sur le plan de la structure qu'ils impliquent. Dans le premier cas, il s'agit de la nominalisation d'un sujet de prédication englobant à son tour une structure participiale et, dans le second cas, de la nominalisation directe d'un argument interne. Indépendamment de cette différence, dans ces deux classes de nominaux, la même distinction est à faire entre les noms d'humains et les noms d'instruments ou de produits ; les propriétés événementielles caractérisent seulement les premiers à la différence des derniers, comme c'est le cas pour les *-eur*, suggérant que les deux processus distincts de nominalisation, à savoir la dérivation à partir de formations verbales complexes ou de racines simples, sont disponibles.

2 Noms d'humains en *-ant*

2.1 Approche syntaxique à la formation des noms déverbaux et prédictions

Le français, comme d'autres langues romanes, peut former des noms d'humains en apparence agentifs à partir de formes homophones avec des participes présents: *un habitant, un consultant, les enseignants ...* Des propriétés d'agentivité ont été attribuées aux noms d'individus en *-ant* sur la base (i) de la présence d'une base verbale à la dérivation (*habitant – habiter, consultant – consulter, enseignant – enseigner, ...*) et (ii) de la coexistence ou compétition avec les formes en *-eur*, dont les propriétés agentives ont été démontrées (Rappaport Hovav & Levin, 1992 ; Alexiadou & Schäfer, 2008, 2010, entre autres, pour l'anglais et Anscombe, 2001 ; 2003, et Roy & Soare, 2012, 2013a, spécifiquement pour le français): *enseignant / chercheur ; attaquant / défenseur ; etc.* En effet, il a été montré dans des travaux récents sur les noms d'individus en *-eur*, que certains, à savoir les noms d'humains, ont des propriétés d'événement et de structure argumentale hérités du verbe sous-jacent, alors que d'autres, à savoir les noms d'instruments, sont dépourvus de telles propriétés.

Dans une approche syntaxique à la formation des mots dérivés complexes (comme celle adoptée par exemple dans Alexiadou, 2001 ; Borer, 1999, 2005, 2013), le contraste entre les noms d'humains (événementiels et agentifs / dispositionnels) et les instruments (non événementiels et non agentifs) est capturé par l'hypothèse de la présence d'une véritable base verbale dans un cas, et son absence dans l'autre. Il s'agit alors de 'simples' dérivations à partir de racines. Le contraste est représenté en (3)-(4).

Dans cette approche, une partie des noms déverbaux (cf. (1)) sont construits dans la syntaxe, et leurs propriétés de nature événementielle sont introduites par des niveaux dédiés dans la structure. La structure aspectuelle / verbale à l'intérieur des noms dérivés en (1) et (2) est la même qu'au niveau phrastique, selon le modèle proposé en (3). Cette représentation s'inspire du cadre proposé par Borer (2005), où les têtes aspectuelles sont responsables d'introduire à la fois la variable d'événement et les arguments, placés dans leur spécifieur : ces noms déverbaux sont construits sur des racines qui sont enchâssées sous deux niveaux de projection fonctionnelle (appelés Asp-Sujet et Asp-Objet) qui introduisent le sujet et l'objet du verbe, respectivement. Pour les noms dépourvus de propriétés événementielles, la structure en (4) est adoptée, où le nominalisateur s'attache à une simple racine dépourvue de toute structure verbale. Dans ce sens, la nominalisation ne prend pas une base verbale, ce qui explique à la fois l'absence de lecture événementielle et des arguments.

- (3) *conducteur du train* : [NP N [Asp-sujet {événement} Sujet-*eur* [Asp-objet Objet [racine *conduct-*]]]]
- (4) *mixeur* : [NP N-*eur* [racine *mix-*]]

Une telle analyse implique un appariement entre les niveaux événementiels et les propriétés internes des déverbaux. Dans la littérature récente, il a été observé que la structure argumentale, corrélée à l'interprétation d'événement pour les noms en *-eur* (un événement est impliqué dans la structure du nom), est associée à une modification adjectivale non-intersective. Deux types de modification adjectivale ont été discutés. En premier lieu, ces noms, comme les déverbaux qui dénotent des événements complexes (cf. Grimshaw, 1990), admettent les modifieurs de type *fréquent*, *constant*, en présence desquels la structure argumentale devient obligatoire (cf. Rappaport Hovav & Levin, 1992 ; Alexiadou & Schäfer, 2008, 2010 ; Roy & Soare, 2012, 2013a). Il existe donc une corrélation claire entre le sens événementiel et la projection de la structure argumentale, en présence de cette modification adjectivale orientée vers l'événement.

- (5) Un consommateur fréquent *(de cette marque de produits) nous donne une opinion valable.¹

Un second type d'adjectif ayant une lecture non-intersective orientée vers l'événement sont les adjectifs du type *beau/grand/petit* (voir aussi Larson, 1998). Dans ce cas, Roy & Soare (2012, 2013a) ont observé une corrélation entre la lecture générique de l'argument interne et l'interprétation générique / dispositionnelle du nom en *-eur* (cf. Roy & Soare, 2012, 2013a-b pour les détails concernant les lectures de ces modifieurs adjectivaux) :

- (6) Un gros consommateur de viande s'expose à des risques de santé.

Dans ce qui suit, nous allons examiner l'existence de telles corrélations au sein des noms d'individus dérivés de participes. En particulier, si les formes en *-ant* sont dérivées de verbes (par l'entremise de sa forme participiale), nous prédisons l'héritage non seulement de la sémantique lexicale du verbe mais aussi des propriétés de structure argumentale et événementielle associées. Dans la mesure où les noms en *-ant* peuvent être dérivés de participes, les propriétés événementielles, aspectuelles et argumentales attendues sont-elles attestées? Ou bien est-ce que le participe en lui-même introduit une sémantique et/ou une structure propres? Ce travail s'attache à montrer que les noms en *-ant*, bien que dérivés de bases verbales, n'héritent pas de propriétés d'événement ou de structure argumentale du verbe. Nous proposons que c'est le cas parce que la base de la nominalisation est une forme participiale introduite par une prédication, et que les noms d'humains en *-ant* nominalisent des sujets de prédication (*gagnant* : le x qui a la propriété de faire V) et pas des agents de verbes.

2.2 Propriétés des noms en *-ant*

La proximité sémantique entre les dérivés en *-ant* et les dérivés en *-eur* a été maintes fois notée (cf. Anscombe, 2001, 2003 ; Roy & Soare, 2012, parmi d'autres), et a conduit à penser que les noms en *-ant* du français ont des interprétations comparables à celle des *-eur*:

- (7) a. attaquant vs. défenseur
b. enseignant vs. chercheur
c. soignant vs. guérisseur
d. votants vs. électeurs

Incidemment, nous notons que certains de ces dérivés en *-ant* sont réalisés comme des *-eur* dans des langues proches qui ont des noms en *-eur* productifs, telles que l'anglais (8a), l'espagnol (b) ou le roumain (c):²

- (8) a. attaquant vs. attacker (anglais)
b. conquérant vs. conquistador (espagnol)
c. accompagnant vs. însoțitor (roumain)

Parfois, les noms en *-ant* sont construits sur les mêmes bases verbales que les noms en *-eur* correspondants, avec des variations de sens qui restent à expliquer :

- (9) a. accompagnateur vs. accompagnant
b. serveur/serviteur vs. servant
c. suiveur/successeur vs. suivant
d. acteur vs. actant
e. directeur vs. dirigeant

Malgré certains parallélismes apparents, nous allons montrer que les noms d'humains en *-ant* ont des propriétés spécifiques qui les distinguent des *-eur*. Tout d'abord, ils n'ont pas d'interprétation agentive. Cette propriété est visible dans leur incapacité à se combiner avec des modificateurs adjectivaux dont l'interprétation est orientée vers l'agent, comme *délibéré*, *volontaire*. Il est frappant de voir que les noms en *-ant*, même lorsqu'ils sont construits sur des bases dynamiques (p.ex. *attaquer*, *soigner*, *voter*, *enseigner* dans (10) ci-dessous), perdent systématiquement la lecture agentive reliée à la base verbale. En revanche, il n'y a pas de doute sur le fait que les noms en *-ant* illustrés en (10) projettent une structure argumentale, comme l'atteste la présence de l'argument interne, qui dans certains cas est obligatoire. Or, on s'accorde à considérer que la projection de la structure argumentale est une propriété verbale des noms déverbaux :

- (10) a. *{un attaquant délibéré} vs. {un agresseur délibéré} du président
b. *{le fervent soignant} vs. {le fervent guérisseur} de la vieille dame
c. *{un votant déterminé} vs. {un électeur déterminé} de Sarkozy
d. *{des enseignants obstinés} vs. {des chercheurs obstinés}³

Un deuxième point vient opposer les noms en *-ant* aux noms en *-eur*; on peut en effet constater que les premiers, à la différence des seconds, peuvent comporter des bases inaccusatives (11). Au premier abord, ils semblent donc pouvoir nominaliser des Thèmes – mais non pas des objets puisqu'ils n'ont jamais une interprétation passive. Ils peuvent également correspondre aux rôles thématiques Expérient et Siège, qui sont typiquement des rôles associés à des sujets d'une prédication stative.

- (11) a. un arrivant vs. *un arriveur
b. un passant vs. #un passeur⁴
- (12) a. un arrivant ; un accédant (Thème)
b. un mourant ; un accompagnant ; un soupirant (Expérient)

c. un soignant ; un remplaçant

(Siège)

Le fait que les *-ant* réalisent différents rôles qui ont en commun d'être associés à la position structurelle du sujet (Expérient, Siège, Thème des innacusatifs) nous conduit à penser que les noms en *-ant* représentent non pas des nominalisations d'arguments (donc directement construits sur la structure argumentale du verbe de base), mais des nominalisations de sujets d'une structure plus large – ce que nous pourrions intituler la Généralisation du Sujet-. La question se pose alors de comprendre ce que réalisent des noms comme *dirigeant, enseignant, trafiquant*, s'ils n'expriment pas des agents. Nous suggérons, comme nous allons le montrer plus bas, que l'exclusion des agents dans la structure de ces nominaux, n'est qu'un effet d'une dérivation qui n'a pas lieu directement sur des arguments.

L'analyse selon laquelle les noms d'humain en *-ant* ne sont pas dérivés sur la structure argumentale du verbe est confirmée par une autre propriété, à savoir que ces noms n'ont pas de lecture d'évènement "épisode/dynamique". Selon les tests de la modification adjectivale en *fréquent/constant* et *heureux/gros/vieux*, qui identifient les deux lectures événementielles au sein de la classe des noms d'humains en *-eur*, lecture épisodique et lecture dispositionnelle, les noms d'humain en *-ant* rejettent systématiquement la lecture épisodique. En effet, ils sont compatibles avec la modification en *heureux/gros/vieux*, qui marque un évènement sous-jacent de type dispositionnel ou générique; mais pas avec la modification en *fréquent/constant* associée à la lecture épisodique dynamique :

- (13) a. les (bien)heureux militants pour la paix (= qui sont heureux de militer)
- b. un vieux gagnant du gros lot (= qui a gagné il y a longtemps)
- c. les petits publiants (= qui publient peu)
- (14) a. *les fréquents publiants (= qui publient fréquemment)
- b. *?ce constant militant pour la paix (= qui milite constamment)

La modification de type *fréquent/constant*, lorsqu'elle est possible (voir 15), n'est pas associée à la présence d'un évènement ponctuel particulier; à la différence des noms en *-eur* modifiés par *fréquent*, l'interprétation épisodique n'est pas obtenue.

- (15) a. le gagnant fréquent du gros lot
- b. un aidant occasionnel des malades d'Alzheimer

Enfin, dans le cas des noms d'humains en *-ant*, l'argument interne ne présente pas d'effet sur l'interprétation de la nominalisation. La distinction épisodique / dispositionnel, pertinente dans la classe des noms en *-eur* animés, repose notamment, comme le montrent Alexiadou & Schäfer (2008, 2010), Roy & Soare (2012, 2013a), sur la contribution d'un argument interne spécifique (associé à la lecture épisodique) ou non-spécifique (associé à la lecture dispositionnelle) - nous répétons ci-dessous les exemples pertinents:

- (16) a. un consommateur fréquent de cette marque de produit (épisode)
- b. un grand consommateur de drogue (dispositionnel - générique)

Ces corrélations ne sont pas attestées au sein des noms d'humains en *-ant*. Notons tout d'abord une tendance des formations récentes à apparaître sans arguments internes:

- (17) les écoutants ; les discutants ; un aidant ; les votants ; etc.

Lorsqu'un argument interne spécifique (par exemple un nom propre en (18a)), est présent, il n'est nullement associé à un évènement ponctuel dans la structure de ces noms (ici, une action particulière de soigner Henri Gomez ou d'aider les malades de la chambre 304). Force est de conclure à l'absence de contribution de la nature de l'argument interne à l'interprétation d'ensemble du nominal dérivé en *-ant*. En revanche, l'interprétation obtenue est du type "personne qui a la propriété de soigner/aider x"; la place de la lecture agentive est prise par une lecture de type statif, observation que nous allons reprendre et étoffer dans ce qui suit :

- (18) a. Le soignant d'Henri Gomez connaissait parfaitement sa réaction aux antibiotiques.
b. Les aidants des malades de la chambre 304 sont au conseil d'administration.

L'absence de lecture épisodique corrobore l'observation sur l'absence de corrélation entre modification de type *fréquent/constant* et événement dynamique/ponctuel, et contribue à montrer que la distinction épisodique/dispositionnel, pertinente pour les noms en *-eur*, ne l'est pas pour les noms en *-ant*. Il ne s'agit pas de conclure ici que les noms d'humains en *-ant* n'impliquent aucune éventualité, ni qu'ils excluent une structure interne de nature verbale. Cependant, il est clair que la corrélation directe entre l'interprétation, la structure verbale et la nature des arguments, observée pour les noms en *-eur* est absente pour les noms en *-ant*. Nous associons ce contraste à une différence de structure interne à la nominalisation dans le cadre que nous adoptons qui s'appuie sur une interface structure / sens forte.

La différence entre les noms déverbaux d'humains en *-eur*, qui dérivent des noms d'agents et donc nominalisent une position argumentale (cf. Alexiadou & Schäfer, 2010 ; Roy & Soare, 2012, 2013a) et les noms d'humains en *-ant* doit être liée à la forme même de ces noms. Dans un cas, nous avons affaire à une affixation (du suffixe *-eur*) sur une base verbale complexe; dans l'autre cas, nous avons affaire à la nominalisation d'une forme participiale⁵. Une dérivation *directe* sur une structure de participe présent ne peut pas être proposée, cependant, car elle ne suffit pas à expliquer les propriétés particulières des noms d'humains en *-ant*. Tout d'abord, l'absence de lecture agentive ne serait pas expliquée ; on s'attendrait en effet à retrouver un sens agentif dans le cas de verbes d'activité comme *trafiquer*, *accompagner*; alors que cette relation directe à la structure argumentale (agentive) de la base est systématiquement perdue, comme nous l'avons montré. Or, le participe présent, en position d'adjectif à la phrase par exemple, admet à la fois la lecture stative et la lecture active (en contraste avec les noms en *-ant*, cf. ci-dessus):

- (19) a. Parlant (naturellement) d'une voix forte, il n'a pas besoin de micro.
b. Parlant (délibérément) d'une voix forte, il a réveillé le bébé.

Selon nous, l'absence de l'interprétation agentive au sein des noms d'humains en *-ant*, remplacée systématiquement par l'interprétation stative, provient de la présence, dans la nominalisation, d'un niveau de prédication intermédiaire entre la structure participiale et le niveau nominal. La structure interne de ces mots semble devoir être enrichie d'un niveau supplémentaire. Nous soutenons que ce niveau est la projection PredP (dans le sens de Bowers, 1993) qui introduit une prédication à partir du participe et offre une position sujet de la prédication. Les noms d'humains en *-ant* sont donc analysés comme des nominalisations de structures de type PredP au sein desquelles la nominalisation prend le sujet de la prédication (Pred), et donc en aucun cas l'un des arguments du verbe de base.

- (20) [NP N [PredP Ø [Asp-sujet Asp-*ant* [Asp-objet Objet [racine ...]]]]]

Dans cette analyse, nous faisons l'hypothèse que la nominalisation est celle d'un affixe nul qui réalise le sujet de PredP ; la nominalisation dénotera ainsi un sujet de prédication, qui se trouve identifié par l'argument externe de la structure participiale enchâssée. Nous rejoignons ici les résultats des études récentes sur les participiales (cf. par exemple Siloni, 1995 ; Bhatt, 1999 ; Giurgea & Soare, 2010) qui incluent un niveau PredP, où (i) la position sujet de PredP est identifiée au sujet de la participiale enchâssée (il s'agit de relatives participiales construites sur le sujet); (ii) la tête Pred introduit systématiquement une éventualité stative.⁶

- (21) [DP les personnes âgées [PredP Ø [PartP Ø marchant dans les rues de Paris]]]

La base de la nominalisation en *-ant* repose sur une structure similaire à celle des participes modifiant un nom en (21). C'est précisément le niveau de prédication qui est responsable de l'interprétation stative présente pour les noms d'humains en *-ant*. En particulier, cette analyse permet d'éclairer le type de theta-rôle que les noms d'humains en *-ant* incarnent: il s'agit dans tous les cas de la nominalisation du Siège (d'un état ou d'une propriété), et non pas d'un Agent ou autre rôle associé à un argument externe.

En revanche, le participe projette bien son argument externe (conséquence de la présence de la tête aspectuelle Asp-sujet incarnée par le morphème *-ant*). Le sujet de Pred est simplement identifié à

l'argument externe du participe; par défaut, et selon des principes standards de localité, ce sujet sera interprété comme l'argument le plus haut dans la structure du participe (matérialisé par une catégorie vide sur le statut de laquelle nous n'allons pas nous prononcer ici).⁷

En résumé, les noms d'humains en *-ant*, à la différence des noms d'humains en *-eur*, ne sont pas des nominalisations d'Agent et n'impliquent pas une lecture épisodique. Ils comportent cependant des propriétés verbales qui proviennent d'une structure complexe où un niveau PredP s'ajoute à la structure participiale elle-même. Ce résultat soulève la question des domaines d'interprétation pertinents pour la nominalisation. Le niveau PredP introduit un domaine extérieur à la structure participiale, ayant comme résultat que les niveaux sous-jacents au participe ne contribuent pas directement à l'interprétation générale de la nominalisation. Le sens compositionnel semble donc prendre en compte des "domaines" de structure sans atteindre les éléments internes qui les composent directement.

3 Noms d'humains en *-é/i/u*

La question de l'héritage des propriétés verbales dans la nominalisation se pose aussi pour une autre classe de noms déverbaux, à savoir, les dérivés en *-é/i/u* dénotant des humains: *les blessés*, *un pendu*, *un banni/proscrit*. Ces noms diffèrent des formes en *-ant* en ce qu'ils nominalisent, non pas des sujets, mais des arguments internes et réalisent des rôles Patient. Cela est visible dans l'interprétation des dérivés en *-é/i/u*: *le blessé* = celui qui est blessé (Patient), *le pendu* = celui qui est pendu (Patient), etc. En ce sens, les noms d'humains en *-é/i/u* se rapprochent donc des noms en *-eur* qui nominalisent aussi un argument du verbe.

Contrairement aux noms en *-eur*, cependant, ces dérivés ne sont jamais interprétés comme des dispositions, mais doivent être liés à un événement épisodique. Ainsi, par exemple, *un blessé* n'est pas "celui qui a la disposition à être blessé", *la mariée* n'est pas "celle qui a la disposition à être mariée", *un pendu* n'est pas "celui qui a la disposition à être pendu". En revanche, la présence d'un événement épisodique sous-jacent peut être démontrée par les tests de la modification adjectivale discutés dans la section précédente. On observe notamment que les deux classes de modificateurs adjectivaux (fréquent aussi bien que heureux) sont possibles, ce qui rapproche les noms en *-é/i/u* des noms en *-eur*, à savoir, les situe dans la classe des noms ayant une interprétation épisodique :

- (22) a. un invité fréquent de notre émission
 b. un élu constant de cette circonscription
 c. un immigré récent

- (23) a. un grand blessé
 b. un heureux élu⁸

Il n'y a aucune raison de penser que ces formations impliquent une interprétation stative de type propriété, à la différence des noms d'humains en *-ant*. Nous en concluons que les noms d'humains en *-é/i/u* sont directement dérivés de bases verbales, sans la contribution d'un niveau PredP intermédiaire. Il n'y a donc pas de relation évidente entre dérivation sur base participiale et nécessité d'introduire une relation de prédication. Les noms d'humains en *-é/i/u* nominalisent des arguments internes. Nous proposons que leur structure interne s'apparente à celle des *-eur*, à la différence que ceux-ci nominalisent des arguments externes; cf. (3), répétée ici en (24)b. Dans le cas des noms d'humains en *-é/i/u*, la nominalisation identifie la position de l'argument interne. En l'absence de morphème qui réalise cette position, nous faisons l'hypothèse d'un affixe nul.

- (24) a. [NP N $\left[\text{PredP} \left[\text{Asp-sujet} \left[\text{Asp-objet} \text{Objet } \emptyset \text{ Asp-é/i/u} \left[\text{racine} \dots \right] \right] \right] \right]]$
{événement}
- b. [NP N $\left[\text{Asp-sujet} \text{Sujet-*eur*} \left[\text{Asp-objet} \text{Objet} \left[\text{racine} \text{conduct-} \right] \right] \right]]$
{événement}

La structure proposée en (24) prédit, cependant, que l'argument externe peut aussi être réalisé dans les nominalisations d'humains en *-é/i/u*, puisqu'il est structurellement présent. Les données en (25) montrent que l'argument externe n'est en fait pas projeté.

- (25) a. *la mariée par le prêtre
b. *le détenu par la police

En d'autres termes, les nominalisations d'humains en *-é/i/u* ne sont pas construites sur des formes passives, mais bien sur des structures dont l'argument externe est absent. La structure correcte est donc celle de (26):

- (26) [NP N [Asp-objet Ø Asp-*-é/i/u* [racine ...]]]

Cette analyse nous permet d'expliquer pourquoi la structure de participe passé ne dérive que des noms de participants qui correspondent à l'argument interne, alors que la forme de participe présent permet d'identifier l'argument nominalisé comme étant l'argument externe dans la structure du participe (dans nos termes, par l'entremise d'un système d'identification avec le sujet de PredP). L'explication est d'ordre structurel. Le participe présent, associé à la base à une valeur aspectuelle imperfective, est une forme qui, comme le gérondif en *-ing* en anglais parmi beaucoup d'autres formes à travers les langues, inclut une projection aspectuelle associée à l'argument externe. La nominalisation cible par défaut la position la plus proche, ici celle d'argument externe (par le biais de PredP), ayant pour effet une interprétation de type 'agent'. Par opposition, les participes passés ont une structure plus réduite, comme nous venons de le montrer ; le participe n'inclut en effet qu'une structure de type V-objet, ce qui dans notre représentation est rendu par le niveau Asp_{objet} qui correspond à l'argument interne.

Nous retrouvons donc, pour les noms en *-é/i/u*, une généralisation bien connue qui a été établie pour les noms en *-eur* : ceux-ci sont des noms d'argument (en l'occurrence, externe) et non pas des noms de rôle Agent. Ici, nous pouvons parler de noms d'argument interne plutôt que des noms de rôle Patient. En quelque sorte, et de façon assez intéressante, les noms en *-é/i/u* s'avèrent être la contrepartie 'interne' des noms en *-eur*, et non pas celle des noms en *-ant*, contrairement à ce que l'on aurait pu penser puisqu'ils sont tous deux dérivés de participes. La forme de base de la dérivation ne laisse donc pas directement prédire les propriétés sémantiques et de structure interne des déverbaux d'humains.

4 Instruments, produits et autres non-humains

Les propriétés verbales et événementielles des noms en *-ant* et *-é/i/u* discutées dans les deux sections précédentes ne sont pas observables pour tous les noms dérivés en *-ant* et *-é/i/u*. En particulier, une distinction majeure doit être établie entre les noms d'humains, qui ont de telles propriétés et les noms inanimés, que nous allons discuter à présent, qui en sont dénués. Rappelons que cette différence peut être représentée structurellement comme une différence de base de formation, verbale dans le premier cas, et faisant appel à une simple racine (ou lexème) dans le second. Les représentations pertinentes, que nous reprenons ci dessous implémentent cette analyse formellement: les propriétés verbales et événementielles du nom déverbal sont associées à de véritables verbes sous-jacents, niveaux présents dans le cas de (27) et absents dans le cas de (28).

- (27) a. *-ant*:
[NP N [PredP [Asp-sujet Asp-*-ant* [Asp-objet Objet [racine ...]]]]]
b. *-é/i/u*:
[NP N [Asp-objet Asp-*-é/i/u* [racine ...]]]

- (28) [NP N-*-é/i/u;-ant* [racine ...]]

Les tests de la modification adjectivale décrits en section 2 montrent clairement, pour les noms inanimés en *-ant* et *-é/i/u*, une absence d'événement interne. Rappelons que l'événement interne est diagnostiqué

par la compatibilité avec les adjectifs (non intersectifs) orientés vers l'événement comme vieux, grand, gros. Les inanimés en *-ant*, et en *-é/i/u* ne peuvent pas apparaître dans ce contexte. Comparer avec (13) et (22-23) pour les noms d'humains :

- (29) a. un vieux tranquillisant ≠ qui tranquillise depuis longtemps
b. un gros amincissant ≠ qui amincit beaucoup
c. le petit détachant ≠ qui détache peu, des petites taches
- (30) a. un récent arrondi ≠ qui vient d'être arrondi
b. un petit soufflé ≠ qui a peu monté en soufflé
c. un gros sablé ≠ qui fait beaucoup de miettes, de sable
d. les vieux invendus ≠ qui ne sont pas vendus depuis longtemps

Les noms inanimés en *-ant* et *-é/i/u* n'ont pas d'éventualité sous-jacente, et donc, selon nous, ne peuvent pas être dérivés de verbes. Cette analyse est confirmée par l'absence d'une autre propriété des verbes, à savoir la structure argumentale. Contrairement aux noms d'événement complexes dérivés verbaux, comme *la destruction de la ville par l'ennemi*, qui doivent nécessairement réaliser la structure argumentale du verbe lorsqu'ils reçoivent la lecture événementielle, les noms inanimés en *-ant* et *-é/i/u* ne réalisent jamais d'arguments. En (31), les compléments doivent être introduits par des prépositions pleines, qui expriment le but ou la destination; et ne sont pas de simples arguments internes du verbe.

- (31) a. un tranquillisant *d'animaux vs. pour animaux
b. un amincissant *de corps vs. pour le corps
c. le détachant *de moquette vs. à moquette/ pour cuir

Puisqu'ils n'exhibent aucune des propriétés communément associées aux verbes (structure argumentale et lecture événementielle), les noms inanimés en *-ant* et *-é/i/u* ne peuvent pas être dérivés de bases verbales.

Ce que nous proposons plutôt, c'est une structure simple (dérivation sur une simple racine), nominalisée par les affixes *-ant* et *-é/i/u*. Ceux-ci sont de vrais affixes nominalisants qui se trouvent simplement avoir la même forme que les flexions participiales (réalisant selon nous Asp_{-sujet} ou Asp_{-objet} dans la structure des participes). L'affixe nominalisant, à part le changement catégoriel qu'il implique, est associé également à une interprétation de type 'entité ayant la propriété dénotée par la racine'.⁹ Nous ne nous prononcerons pas ici sur le rapport en diachronie entre affixes nominalisants et flexion participiale; en synchronie, cette analyse est motivée par les propriétés sémantiques et syntaxiques des dérivés nominaux.

Cette analyse, qui réduit les inanimés en *-ant* et *-é/i/u* à une seule et unique structure, semble, cependant, incompatible avec une tendance observable à une interprétation sujet des formes inanimées dérivées sur *-ant* (un dissolvant est un produit qui sert à dissoudre, un adoucissant est un produit qui adoucit le linge, etc) et à une interprétation objet des formes inanimées dérivées sur *-é/i/u* (un arrondi est la chose qui a été arrondie, les invendus sont les choses qui n'ont pas été vendues, etc.).

Dans ce contexte, nous observons, cependant, d'une part, que cette interprétation est présente même dans des formations sans base verbale associée (32), ce qui indique que l'interprétation sujet / objet n'est pas associée à un verbe (et donc une position argumentale) sous-jacent :

- (32) a. détergent ("qui nettoie") ;
b. sablé ("qui est comme du sable")

D'autre part, l'interprétation sujet pour les *-ant* et objet pour les *-é/i/u* se confirme comme une tendance bien plus qu'une règle, puisqu'elle disparaît complètement dans les cas comme (33), qui dérivent des objets pouvant être des instruments ou des moyens mais sans aucun rapport avec une éventuelle structure argumentale:

- (33) a. adjuvant (“produit que l’on ajoute pour”) ;
b. doigté (“manière de placer les doigts sur un instrument”)

L’interprétation sujet pour les *-ant* est aussi perdue dans des formes figées dans lesquelles il n’est pas possible de retrouver de base verbale claire.

- (34) a. stupéfiant (≠qui stupéfie) ; collant (≠qui colle) ; volant (≠qui vole) ; croissant (≠qui croit)
b. tournant (≠qui tourne, mais : endroit où l’on doit tourner) ; levant (endroit où le soleil se lève)
c. pliant (≠qui plie, mais : chaise de plage pliante) ; dépliant (≠qui déplie, mais : document qui se déplie)
d. gisant (= la statue allongée mais pas la personne elle-même) ; le tranchant (du couteau) (≠qui tranche, mais : qui sert à trancher) cicatrisant (qui fait cicatriser)
e. anti-coagulant (contre que le sang coagule) ; anti-givrant (contre que le liquide givre)

De même pour les noms en *-é/i/u*, qui présentent de nombreuses occurrences dans lesquelles l’objet n’est pas recouvrable et ne peut être associé à une base verbale claire:

- (35) un jeté (≠ qui est jeté) ; étendue (≠ qui s’étend) ; revenu (≠ qui revient) ; bâti (≠ qui est bâti) ; crépi (≠ qui est crépi)

L’hétérogénéité des lectures ainsi que le caractère figé de certaines formes est expliqué par l’absence de base verbale, et donc de contribution sémantique / argumentale / événementielle liée au verbe. Puisque les *-ant* et les *-é/i/u* inanimés sont formés directement sur des racines, nous nous attendons en toute logique à une variabilité dans le sens de la forme résultant de la nominalisation. Ils entretiennent une certaine relation sémantique avec le verbe, puisqu’ils partagent les mêmes racines, et donc un sens encyclopédique, mais ne partagent pas les propriétés liées à la catégorie lexicale du verbe.

5 Conclusion

Pour conclure, l’étude détaillée des propriétés sémantiques des dérivés déverbaux en *-ant* et *-é/i/u* oblige à distinguer deux classes de noms: ceux qui sont dérivés de bases verbales et ceux qui sont directement dérivés de racines. La différence entre les deux classes de noms est celle notée dans la littérature depuis Grimshaw (1990) entre noms qui héritent des propriétés d’événement, de structure argumentale et de la structure aspectuelle d’une base verbale sous-jacente et ceux qui sont dénués de telles propriétés. En l’absence de propriétés verbales / aspectuelles, force est de conclure à l’absence de toute base verbale, dans le cadre d’une approche syntaxique à la dérivation des noms déverbaux complexes qui fait l’hypothèse d’une corrélation forte entre structure et sens.

Les noms d’humains en *-ant* et en *-é/i/u* exhibent des propriétés d’événement, d’aspect et de structure argumentale, suggérant qu’ils sont tous construits sur des bases verbales, de même que les noms d’humains déverbaux en *-eur*. Les différences interprétationnelles entre ces déverbaux, par exemple l’existence de la lecture dispositionnelle, la réalisation des arguments internes et externes, la contribution sémantique de l’argument interne dans l’épiscodicité / généralité, dérivent de différences structurelles profondes entre les noms en *-ant* et en *-eur*, d’une part, et les noms en *-ant* et *-é/i/u* d’autre part. La dérivation sur la base de participes verbaux n’a que peu de propriétés communes dans le cas des *-ant* vs. *-é/i/u*, puisque des niveaux différents de structure entrent en jeu qui dérivent des sens différents et des propriétés événementielles / verbales différentes.

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¹ Les données de cet article prennent en compte uniquement les déverbaux en position argumentale et non pas prédicative. Comme il est montré dans Roy & Soare (2013a), le contexte prédicatif, marqué par exemple par la présence de la copule, rend la lecture événementielle possible, ce qui suggère que la prédication introduit sa propre

éventualité, et par conséquent ne permet pas de discriminer les nominalisations à structure interne complexe des nominalisations simples.

² Nous ne nous intéressons pas ici aux propriétés des affixes, à la compétition entre affixes, et à la source de la variation à travers les langues dans ce domaine. Notre discussion se concentre essentiellement sur les propriétés sémantiques et structurelles de ces noms.

³ Notons qu'il est tout à fait possible de modifier *enseignant* par l'adjectif *obstiné*, et que d'autres adjectifs comme *fervent* sont également possibles avec des noms en *-ant*, comme le fait aussi remarquer un relecteur anonyme, mais cruciallement pas dans une lecture orientée vers l'événement. Un enseignant obstiné n'est pas quelqu'un qui enseigne obstinément, ou qui est obstiné d'enseigner, mais simplement une personne qui est obstinée et enseignante; un votant fervent de Sarkozy n'est pas quelqu'un qui vote de manière fervente mais une personne qui est fervente dans ses convictions, et qui vote pour Sarkozy. On est dans ce cas en face d'une lecture intersective de l'adjectif (une personne qui est un enseignant et qui est obstinée comme personne). Cette lecture n'indique pas la présence d'un événement interne au nom – il s'agit d'une lecture externe. Voir Gehrke & McNally (2012) et Roy & Soare (2013b) pour la distinction interne / externe; voir Roy & Soare (2013a) pour la relation entre ces lectures et la position prédicative, cf. note 1 ci-dessus.

⁴ Le signe # marque non pas l'aggrammaticalité de *passeur*, mais l'impossibilité de former *passeur* autrement que sur une base transitive.

⁵ Nous rejetons l'hypothèse selon laquelle les noms d'humains en *-ant* sont dérivés d'adjectifs sur la base de l'absence systématique d'adjectif associé illustrée en (i) et de l'absence de la modification de degré au sein de ces noms (ii):

(i) *la personne habitante ; *les adultes enseignants ; *les élèves apprenants ; *la personne soignante

(ii) *le très-publiant ; *le bien-aimant.

⁶ Nous pouvons également noter que dans la structure proposée ci-dessus, le participe a sa structure complète, avec projection de la structure argumentale. On peut l'identifier notamment par la compatibilité des participiales avec le contrôle dans une finale, ou les modificateurs adjectivaux orientés vers le sujet :

(i) les personnes âgées marchant dans les rues de Paris (pour prendre l'air)

⁷ Dans une approche syntaxique du type de celle que nous adoptons ici, les projections ('fonctionnelles', comme AspP, ou 'lexicales', comme VP), obéissent à des principes de localité, qui gèrent par exemple la sélection de compléments, mais aussi potentiellement d'autres propriétés. Ici, un affixe nominalisant est une tête (N) qui sélectionne localement un complément dont la nature peut être diverse : selon la structure, PredP, Asp-sujetP ou Asp-objetP.

⁸ Dans ce contexte, peuvent également être discutés les constructions comme *nouveau-né* ou *bon vivant*, qui incluent une forme adjectivale qui a un rapport à l'événement de naître/vivre ; cependant, il n'est pas clair que ces formes adjectivales identifient vraiment un événement dans la structure du nominal, comme il s'agit de formes qui soit sont des composés, soit ont fait l'objet d'une lexicalisation.

⁹ Ce type de situation se retrouve dans d'autres cas à travers la langue. En effet, on constate, par exemple, une 'évolution' vers le figement ou la lexicalisation dans le cas des flexions participiales qui introduisent la catégorie adjectivale dans le cas des participes adjectivaux.

Nominalisations de participes : propriétés verbales et syntaxe interne

Isabelle ROY et Elena SOARE

1. Introduction

Ce travail s'intéresse aux formes nominalisées en *-ant* de type *un habitant, un mendiant, des collants*, et en *-é/i/u* de type *le blessé, un pendu, un insoumis*. Ces formes ont en commun avec les noms déverbaux en *-eur* de dénoter des humains (*conducteur, chercheur* ; cf. *enseignant, habitant*) et des non-humains (*ventilateur, mixeur* ; cf. *soufflé, arrondi*) ; mais diffèrent en ce sens qu'elles ne dérivent pas directement de verbes, mais de leurs formes participiales présentes (en *-ant*) ou passées (en *-é/i/u*). Cette différence n'est pas dénuée d'intérêt pour l'approche syntaxique à la formation des nominalisations, dans laquelle nous travaillons, et qui accepte une corrélation directe entre structure interne des noms dérivés verbaux et interprétation.

Depuis Grimshaw (1990) l'approche syntaxique à la nominalisation attribuée aux noms événementiels une structure interne complexe, comprenant des niveaux typiquement verbaux (par ex. *la construction de la cathédrale en vingt ans par les habitants du village*, qui admet à la fois des modificateurs aspectuels et la réalisation des arguments), et aux noms qui dénotent des objets référentiels ou des résultats, une structure simple, dépourvue de tels niveaux (par ex., *cette construction est en ruines*). La corrélation entre structure complexe comportant des niveaux verbaux et interprétation événementielle est vérifiée par la réalisation de la structure argumentale, alliée à la présence de modification orientée vers l'événement, en particulier la modification adjectivale par *fréquent*, la modification aspectuelle de type *en X temps*, etc. (voir Knittel ici même).

De tels comportements ont été documentés aussi bien dans le cas des noms en *-tion* et *-age* qui dénotent des processus (voir en particulier Alexiadou 2001, Borer 1999) (1), que dans le cas des noms d'individus en *-eur* (Rappaport Hovav & Levin 1992, Alexiadou & Schäfer 2008, 2010, Roy & Soare 2012, 2013, 2014a) (2).

- (1) a. *La construction de cet immeuble par une entreprise spécialisée en une semaine* a fait l'objet d'un article dans la presse locale.
b. *L'assemblage du moteur par cette équipe en moins de dix minutes* a valu un diplôme de mérite à notre entreprise.

Nominalisations de participes : propriétés verbales et syntaxe interne

- (2) a. *Le conducteur du train de 18h53* a commis une grave erreur qui a causé le déraillement du train.
b. *Les consommateurs fréquents de ces drogues* risquent de graves problèmes de santé.

Structurellement, la correspondance entre la lecture événementielle et les comportements syntaxiques illustrés ci-dessus repose sur la présence de niveaux fonctionnels spécifiques de nature verbale. C'est dans ce sens précis que les noms déverbaux complexes (1 et 2) sont dérivés sur une base verbale ; par opposition aux dérivés non-événementiels qui sont construits, par hypothèse, sur une simple racine (—cf. (6)). Ces niveaux verbaux / aspectuels (selon les cadres adoptés, l'aspect, la voix, et/ou l'événement) sont des niveaux *grammaticaux* qui construisent l'interprétation événementielle par l'introduction de variables d'événement à l'interface syntaxe/sémantique. Il s'agit de ce que nous appelons l'*événement interne* ou *grammatical*, une terminologie reprise de Roy & Soare (2013, 2014a). L'événement interne est celui effectivement exprimé par le verbe à l'intérieur de la nominalisation.

- (3) noms d'événement complexes :
construction, emballage, cristallisation (de... par... ; cf. 1)

[N [ASP/V _{événement} Sujet Objet [racine ...]]]

Un tel événement est discernable en (4) mais pas en (5) :

- (4) a. *La destruction de la ville par les ennemis* a été terriblement choquante.
= les ennemis détruisent la ville
b. *Un consommateur fréquent de cette marque* a exprimé une opinion favorable
= quelqu'un qui consomme fréquemment cette marque
- (5) a. *Ces jolies cristallisations* dataient de l'antiquité.
≠ qui cristallisent joliment ;
mais : des cristallisations qui sont jolies
b. *De rares travailleurs* nous donnaient le bonjour.
≠ des personnes qui travaillent rarement ;
mais : rarement, des travailleurs nous donnaient le bonjour

Par hypothèse, l'absence d'événement interne grammatical en (5), avec les noms non-événementiels, est associée à l'absence de niveaux verbaux ou aspectuels en (6) :

- (6) noms dits 'référentiels' :
construction (≈ bâtiment), *emballage* (≈ film plastique), *cristallisation* (≈ cristaux)

[N [racine ...]]

Les noms dérivés sur des racines n'ont pas de propriétés verbales puisque les racines ne sont, par hypothèse, pas catégorisées et donc pas associées à une sémantique de l'événement (Marantz 1997, Harley & Noyer 1998, Borer 1999, 2005, 2013).

Le comportement divergent des deux classes de noms en ce qui concerne la réalisation des arguments (*la construction de la tour par les ouvriers a duré 5 ans vs. cette construction (*de la tour par les ouvriers) date de 1815*) ; et les modifieurs orientés vers l'événement interne (*la construction en deux jours de la tour par les ouvriers vs. la construction (*en deux jours) date de 1815*) dérive du contraste structurel entre (5) et (6).

En ce qui concerne les noms d'humains en *-eur* (cf. 2), les tests pour la lecture événementielle, et donc la présence d'une base verbale à la dérivation, sont la modification adjectivale de type *fréquent/constant*, ainsi que *gros/heureux/vieux*, sous leur lecture de modifieurs d'événement (par ex. *un gros lecteur* 'qui lit beaucoup' et non pas une personne qui est de grosse taille et lectrice) (Roy & Soare 2012, 2013, 2014a). L'existence de deux lectures événementielles distinctes, corrélées chacune à une modification adjectivale spécifique, a été montrée : lecture épisodique avec les modifieurs de type *fréquent*, et lecture dispositionnelle avec les modifieurs de type *gros/heureux/vieux* (Roy & Soare op. cit.).

Dans la perspective d'intégrer les noms en *-ant* et *-é/i/u* à une théorie plus générale des nominalisations déverbales, on doit se demander si les classes "événementiel/non-événementiel" dégagées pour les autres déverbaux se retrouvent également au sein de ces noms. Si tel est le cas, et que des propriétés événementielles peuvent être isolées pour certains au moins de ces noms, il s'agit alors de savoir s'ils héritent ou non de la sémantique lexicale du verbe et des propriétés de structure argumentale et aspectuelle associées, et dans quelles conditions. Dans la mesure où ils impliquent des dérivés de participes, cette situation peut, en principe, contribuer à la composition de l'interprétation de la forme nominalisée.

Notre travail confirmera que le degré d'événementialité du nominal découle de la structure fine du domaine nominalisé, où chaque niveau structurel est associé à une contribution sémantique spécifique. Nous montrerons que la structure des dérivés participiaux n'est pas homogène. En particulier, les dérivés en *-ant* sont à distinguer de ceux en *-é/i/u* non seulement sur le plan de l'interprétation mais aussi sur le plan de la structure qu'ils impliquent. Cet article est organisé de la manière suivante. La section 2 concerne les noms d'humains en *-ant*. Nous montrerons tout d'abord que les noms en *-ant* appartiennent soit à la classe des noms d'humains et ont des propriétés d'événement ; soit à la classe des non-humains et sont dénués de telles propriétés. Nous discuterons ensuite les propriétés des noms d'humains en *-ant*, pour montrer

qu'il s'agit de la nominalisation d'un sujet de prédication englobant à son tour une structure participiale, dérivant ainsi un certain nombre de propriétés inattendues (en comparaison ou non avec les noms en *-eur*). La section 3 concerne les noms d'humains en *-é/i/u*, qui, à l'inverse des premiers, nominalisent directement l'objet du verbe (c'est-à-dire son argument interne). La section 4 s'attache à discuter les propriétés non-événementielles des noms de substance et autres non-humains, que nous analysons comme des dérivés sur des racines. Enfin, la section 5 présente l'état de notre réflexion sur les domaines de nominalisation et l'interface entre la structure interne des formes nominalisées et leur interprétation. Cette section fait office de conclusion.

2. Noms d'humains en *-ant*

2.1 Propriétés événementielles

La dichotomie entre noms événementiels et non-événementiels est observée aussi pour les noms en *-ant*. Certains noms, à savoir les noms d'humains, permettent des lectures événementielles marquées par la modification avec des adjectifs orientés vers l'événement interne : *un vieux gagnant du gros lot* (= qui a gagné le gros lot il y a longtemps), *les petits publiants* (= qui publient peu). D'autres, cependant, ne présentent pas cette propriété. Ces derniers sont des noms inanimés qui dénotent des objets matériels, des substances et autres non-humains : *un vieux collant* (\neq qui colle depuis longtemps), *un petit mendiant* (\neq qui mendie peu ; mais chocolat de petite taille), *un gros détachant* (\neq qui détache beaucoup), etc.¹ L'existence de ces deux groupes suggère que, comme pour les autres dérivés déverbaux (y compris les dérivés en *-eur*), deux classes doivent être distinguées : des noms dérivés de base verbale, à laquelle est associée la lecture d'événement et des noms dérivés directement de racines, qui n'ont pas de propriétés verbales. Nous reviendrons sur les dérivés de racines en section 4.

Si la dichotomie entre structure complexe (pour les noms d'humains) et structure simple (pour les noms d'objet) ne semble pas poser de problème au sein des noms dérivés de participes (cf. aussi la discussion des *-é/i/u*, en section 3 ci-dessous), le caractère événementiel des premiers suscite quelques observations. Conformément aux tests classiques (cf. Grimshaw 1990, Rappaport Hovav & Levin 1992, Alexiadou & Schäfer 2010, Roy & Soare 2012, 2014a — qui s'intéressent essentiellement aux noms en *-eur*), deux types de lectures événementielles peuvent être identifiées au sein des noms d'humains : une lecture épisodique qui admet aussi bien la modification par

1 Il n'est pas attendu que les adjectifs auront toujours une lecture d'événement interne lorsqu'ils sont construits avec des animés - comme le montre l'ambiguïté de *un grand manifestant*, par exemple - mais que seuls les animés peuvent avoir cette lecture. Voir aussi notes 2 et 3.

fréquent/constant, que la modification par *gros/heureux/vieux*, et une lecture dispositionnelle (ou générique) qui admet seulement *gros/heureux/vieux*.

- (7) a. *un visiteur (fréquent) de notre entreprise* (N_{-eur} épisodique)
 = qui visite fréquemment notre entreprise
 b. *un (heureux) visiteur de notre entreprise*
 = heureux d'avoir visité notre entreprise
- (8) a. *un souffleur (*fréquent/constant) de verre* (N_{-eur} dispositionnel)
 b. *un (vieux souffleur) de verre*
 = qui souffle le verre depuis longtemps.

Or, au sein des noms d'humains en *-ant* la distinction ne semble pas tenir (voir aussi Roy & Soare 2012, 2014b). En effet, ces noms sont compatibles avec la modification en *gros/heureux/vieux*, qui marque un événement sous-jacent de type dispositionnel ou générique (9) ; mais pas avec la modification en *fréquent/constant* associée à la lecture épisodique dynamique (10).²

- (9) a. *les (bien)heureux militants pour la paix* = qui sont heureux de militer
 b. *un vieux gagnant du gros lot* = qui a gagné il y a longtemps
 c. *les petits publiants* = qui publient peu
- (10) a. **les fréquents publiants* (#qui publient fréquemment)
 b. **?ce constant militant pour la paix* (# qui milite constamment)

L'absence de lecture événementielle épisodique avec les noms en *-ant* les distingue des *-eur*. (et voir aussi la discussion en section 2.3), et nécessite une explication. En particulier, pourquoi les noms d'humains en *-ant* semblent-ils se spécialiser pour une lecture dispositionnelle ? Dans les termes d'une approche syntaxique, cette explication trouvera sa source dans la structure interne des nominaux.

2.2 Rôle agent et généralisation du Sujet

Ce premier contraste est corrélé à une autre différence liée, cette fois, à la structure thématique et argumentale. L'une des interprétations possibles des noms déverbaux d'humains (voire la plus fréquente, dans le cas des noms en *-eur*) est l'interprétation agentive. Selon le point de vue adopté ici, cette interprétation découle de la structure

2 Certains usages de noms d'humains en *-ant* modifiés par *fréquent/constant* sont à noter; mais ils ne concernent que des usages prédicatifs, qui doivent être exclus de notre discussion parce que la prédication elle-même est source d'événementialité (en l'occurrence stative) : *Il est un gagnant fréquent au poker ; Il n'existe aucun système qui fera de vous un gagnant constant aux machines à sous.*

interne d'une nominalisation qui nominalise l'argument externe du verbe (généralement son sujet)³ : par ex. *chercheur* nominalise l'agent du verbe *chercher*. Contrairement à ce qu'on attendrait avec une base verbale agentive, les noms en *-ant* perdent systématiquement cette interprétation, (cf. aussi Anscombe 2003), comme le montre leur incapacité à se combiner avec des modificateurs adjectivaux orientés vers l'agent, comme *délibéré*, *volontaire* — un test standard de l'agentivité (cf. entre autres, Alexiadou 2001).

- (11) a. {**un attaquant délibéré* vs. *un agresseur délibéré*} de la vieille dame
 b. {**le fervent soignant* vs. *le fervent guérisseur*} de la vieille dame
 c. **un votant déterminé* vs. *un électeur déterminé*
 d. **des enseignants obstinés* vs. *des chercheurs obstinés*⁴

Les noms en *-ant* illustrés ci-dessus projettent, cependant, une structure argumentale, comme l'atteste la présence possible de l'argument interne en (a-b). Or, on s'accorde à considérer que la projection de la structure argumentale est une propriété verbale que les noms déverbaux héritent de la base sur laquelle ils sont dérivés, suggérant que les noms d'humains en *-ant* ont bien une base verbale. L'absence de l'interprétation agentive avec des noms reliés à des bases verbales qui ont forcément une grille thématique comprenant un Agent indique, de façon surprenante, que les noms en *-ant* n'héritent pas directement de la grille thématique de leur base verbale, en ce qui concerne l'argument externe tout au moins. Ce résultat mène à la conclusion que les noms en *-ant* ne nominalisent pas un rôle thématique, ni l'argument externe du verbe, puisque si tel était le cas, ils auraient nécessairement une lecture agentive en présence d'une base transitive dynamique.

Les noms en *-ant*, cependant, semblent pouvoir nominaliser des rôles thématiques de type Expérient ou Siège de prédicats statifs (cf. 12), ainsi que prendre des bases inaccusatives (à la différence des noms en *-eur* (cf. 13) ; voir aussi Anscombe 2003).

- (12) *un mourant ; les vivants ; les habitants ; etc.*

3 Nous appelons *argument externe* l'argument du verbe qui se réalise en dehors du groupe verbal (en tant que sujet syntaxique, dénotant l'Agent, la Cause...), par opposition à l'*argument interne* qui, lui, est réalisé à l'intérieur du groupe verbal, en tant qu'objet (dénotant le Patient, le Thème...).

4 Notons qu'il est tout à fait possible de modifier *enseignant* par l'adjectif *obstiné*, mais *pas* dans une lecture orientée vers l'événement; un enseignant obstiné n'est pas quelqu'un qui enseigne obstinément, ou qui est obstiné d'enseigner, mais simplement une personne obstinée et enseignante. On est dans ce cas en face d'une lecture intersective de l'adjectif (une personne qui est un enseignant et qui est obstinée comme personne). Cette lecture n'indique pas la présence d'un événement interne au nom - il s'agit d'une lecture externe. Voir Roy & Soare (2014a); ainsi que Gehrke & McNally (2012) pour la distinction interne / externe.

(13) *un arrivant* vs. **un arriveur*

Nous devons en conclure qu'ils peuvent nominaliser des rôles thématiques associés à des positions sujet dans le cas de prédicats statifs, mais pas pour les bases dynamiques agentives. Cette observation est assez inattendue, car rien ne semble distinguer structurellement les verbes statifs des verbes actifs en ce qui concerne la réalisation de l'argument externe. Le fait que les noms d'humains en *-ant* réalisent différents rôles qui ont en commun d'être associés à la position structurelle du sujet (Expérient, Siège, Thème des inaccusatifs) nous conduit à penser qu'ils représentent non pas des nominalisations d'arguments (donc directement construits sur la structure argumentale du verbe de base), mais des nominalisations de sujets d'une structure plus large – ce que nous pourrions intituler la Généralisation du Sujet. La question de ce qui est nominalisé dans la formation des *-ant* sur des bases verbales dynamiques / agentives, n'est pas résolue cependant : que réalisent des noms comme *dirigeant*, *fabricant*, *trafiquant*, s'ils nominalisent les sujets de *diriger*, *fabriquer*, *trafiquer*, mais n'expriment pas des agents? Quelle structure est alors nominalisée?

2.3 Épisodicité / généricité et nature de l'argument interne

Au niveau phrastique, les arguments internes jouent un rôle dans l'interprétation de l'événement dénoté par le verbe en ce qui concerne deux dimensions importantes de la phrase : la télicité (*manger du riz* vs. *manger un bol de riz*) et la généricité (*aimer ce poème* vs. *aimer les poèmes*). Nous nous intéresserons ici au rôle qu'ils peuvent jouer dans la généricité. Roy & Soare (2014a) ont montré que cette dimension est pertinente pour les noms d'humains, pour distinguer les noms en *-eur* épisodiques vs. dispositionnels, ces derniers associés à une lecture générique du verbe. La distinction repose notamment, comme le montrent Alexiadou & Schäfer (2008, 2010), Roy & Soare (2012, 2014a), sur la contribution d'un argument interne spécifique (associé à la lecture épisodique) ou non-spécifique (associé à la lecture dispositionnelle) - nous répétons ici les exemples pertinents :

(14)	a. <i>un consommateur fréquent de cette marque de produit</i>	épisodique
	b. <i>un grand consommateur de drogue</i>	dispositionnel

Dans cette perspective, l'absence de l'interprétation épisodique pour les noms en *-ant*, démontrée dans la section 2.1, signifie que l'argument interne ne joue aucun rôle dans la lecture de la nominalisation.

Les exemples en (15), ci-dessous, servent à illustrer l'absence d'effet de l'argument interne (spécifique : *Victor Gomez*, *Paris 8* vs. non spécifiques : *les malades d'Alzheimer*) dans la lecture épisodique. Lorsqu'un argument interne spécifique (par exemple un nom propre en (15a)) est présent, il n'est nullement associé à un événement ponctuel dans la structure de ces noms (ici, une action particulière de

soigner Victor Gomez) (voir Roy & Soare 2012, 2014b). Ceci est assez inattendu, puisqu'au niveau phrastique les syntagmes verbaux *soigner Victor Gomez*, *aider les malades d'Alzheimer*, *enseigner à Paris 8* hésitent entre la lecture épisodique et générique. Nous concluons donc à l'absence d'une contribution de l'argument interne à l'interprétation d'ensemble du nominal dérivé en *-ant*. La raison de cette différence entre les noms en *-ant* d'une part et les noms en *-eur* et les syntagmes verbaux d'autre part reste à expliquer.

- (15) a. *Le soignant de Victor Gomez*
= qui le soigne généralement ; et pas qui est en train de le soigner
b. *les aidants des malades d'Alzheimer*
= qui aident généralement ; et pas qui sont en train d'aider
c. *un enseignant de Paris 8*
= qui enseigne à P8 en général ; et pas qui est en train d'enseigner à P8

Pour pousser le point de l'absence d'effet de l'argument interne encore plus loin, notons que les néologismes construits sur des bases en *-ant* sont systématiquement dépourvus d'arguments internes, même lorsque le verbe sous-jacent est un prédicat transitif.

- (16) *les écoutants ; les discutants ; un aidant ; les publiants ; un consultant ; etc.*

Ceci suggère que même si les noms d'humains en *-ant* sont dérivés d'une base verbale (associée à la lecture d'événement interne), celle-ci est nécessairement défective, en ce sens qu'elle ne réalise pas pleinement ses propriétés typiques de structure argumentale. Cette défectivité apparente est-elle dérivable d'une structure particulière nominalisée, plutôt que simplement accidentelle?

2.4. Vers une analyse des noms d'humains en *-ant*

Malgré les indices convergents qui indiquent que les noms d'humains en *-ant* ne sont pas dérivés *directement* de verbes, nous ne pouvons pas abandonner l'hypothèse de la présence d'un élément verbal sous-jacent, sans quoi la lecture événementielle des *-ant* humains (comparés aux non-humains — *collant*, *détachant*, et aux noms non-dérivés verbaux plus généralement — *table*, *feuille*, *rivière*) ne peut être expliquée. Dans ce qui suit, nous allons montrer, cependant, que les propriétés des noms en *-ant* relevées ci-dessus, à savoir l'incapacité à réaliser des Agents et des arguments externes de verbes dynamiques, ainsi que l'absence d'effet de l'argument interne sur la lecture événementielle et l'absence plus générale de la lecture épisodique, sont reliées et qu'elles peuvent être expliquées d'une façon unifiée.

Une différence évidente entre les noms d’humains en *-ant*, et les noms d’humains en *-eur*, connus pour nominaliser une position argumentale (Alexiadou & Schäfer 2010, Roy & Soare 2012, 2014a), tient à la forme même de la nominalisation. Dans un cas nous avons affaire à une affixation (du suffixe *-eur*) sur une base verbale ; dans l’autre cas, nous avons affaire à la nominalisation de la forme participiale⁵. On ne peut pas proposer, cependant, une dérivation *directement* sur une structure de participe présent, qui ne suffirait pas à expliquer l’absence de l’interprétation agentive ou l’absence de la lecture épisodique. En effet, le participe présent, en position d’adjoint à la phrase ou en indépendante, par exemple, admet communément une lecture active, associée à un sens épisodique et dynamique et à un rôle Agent (17) :

- (17) *Parlant (délibérément) d’une voix forte, il a réveillé le bébé ;
Admettant son erreur, elle a supplié l’école de lui restituer son emploi ;
Jeune pêcheur napolitain jouant avec une tortue ;
Jeune femme en bleu lisant une lettre ; etc.*

Si une structure participiale était directement nominalisée, on s’attendrait à retrouver un sens agentif dans le cas de verbes d’activité comme *trafiquer, accompagner* ; or cette relation directe à la grille argumentale et thématique de la base est perdue systématiquement, comme nous l’avons montré.

Nous proposons que l’absence de l’interprétation agentive au sein des noms d’humains en *-ant* ainsi que la perte de la lecture épisodique découlent de la présence, dans la nominalisation, d’un niveau de prédication intermédiaire entre la structure participiale et le niveau nominal. Nous admettons que ce niveau est réalisé par un syntagme prédicatif (noté *PredP* ci-dessous; Bowers, 1993) qui introduit une prédication à partir du participe et offre une position sujet de la prédication. Les noms d’humains en *-ant* sont donc analysés comme des nominalisations de structures prédicatives, au sein desquelles la nominalisation prend le sujet de la prédication (réalisé par un affixe \emptyset), et par conséquent, *pas* l’un des arguments du verbe de base directement. Elle dénote ainsi un sujet de prédication.⁶

- (18) [N N [PredP \emptyset_i [ASP/V événement Sujet_i *-ant* Objet [racine ...]]]

5 Nous rejetons l’hypothèse selon laquelle les noms d’humains en *-ant* sont dérivés d’adjectifs sur la base de l’absence systématique d’adjectif associé illustrée en (i) et de l’absence de la modification de degré au sein de ces noms (ii) (voir aussi Roy & Soare 2012):

(i) **la personne habitante ; *les adultes enseignants ; *les élèves apprenants ; *la personne soignante*

(ii) **le très-publiant ; *le bien-aimant.*

6 Celui-ci se trouve identifié sémantiquement par l’argument externe de la structure participiale enchâssée ; ce que nous représentons par la co-indexation visible en (18).

Nous rejoignons ici les résultats des études récentes sur les participiales (Siloni 1995, Bhatt 1999, Giurgea & Soare 2010) qui incluent un niveau de prédication PredP, où la position sujet de la prédication est identifiée au sujet de la participiale enchâssée (il s'agit de relatives participiales construites sur le sujet) ; et la tête de la prédication introduit systématiquement une éventualité stative.

(19) [DP les personnes âgées [PredP Ø [PartP *ec* marchant dans les rues de Paris]]]

La base de la nominalisation en *-ant* repose donc sur une structure similaire à celle des participes modifiant un nom en (19). La prédication est associée, par définition, à une sémantique stative, ce qui explique l'absence d'épisodicité avec les bases verbales dynamiques. Du fait de la présence de Pred dans la dérivation, *un trafiquant* (par ex.) ne peut donc pas être associé à une lecture épisodique de 'trafiquer' (ex. **le trafiquant de la cocaïne qui a été trouvée à bord du vol Air France*) mais bien à une lecture de propriété stative (ex. *le trafiquant de drogue / *de la drogue*).

Pour conclure, les noms d'humains en *-ant*, à la différence des noms d'humains en *-eur*, ne sont pas des nominalisations d'Agent, ni d'argument externe du verbe. Ils comportent cependant des propriétés verbales qui proviennent d'une structure complexe où un niveau PredP s'ajoute à la structure participiale elle-même. L'exclusion des agents n'est qu'un effet d'une dérivation qui n'a pas lieu directement sur des arguments. La nominalisation des rôles Siège et Expérient (cf. 12) est également un effet de la nominalisation sur le sujet d'une prédication stative : le sujet de Pred a la même interprétation que le sujet de verbes statifs comme *vivre*, *mourir*, *habiter*. Nous dérivons ainsi de cette unique propriété structurelle (présence d'un niveau prédicatif et de son sujet) à la fois l'absence d'agentivité et celle de la lecture épisodique et donc dynamique.

3. Noms d'humains en *-é/i/u*

La question de l'héritage des propriétés verbales dans la nominalisation se pose aussi pour la classe des noms d'humains déverbaux à base participiale dérivés en *-é/i/u* : *les blessés*, *un soufflé*, *un pendu*, *un banni*, *les insoumis*. Tout d'abord, nous montrons que les noms en *-é/i/u*, comme les noms précédents, appartiennent à deux classes distinctes selon qu'ils acceptent ou non des modifieurs orientés vers l'événement. Comme pour les *-ant*, les noms d'humains permettent de telles modifications : *un invité fréquent de notre émission*; *un élu récent*; *un vieil immigré* ; alors que les non-humains ne peuvent pas prendre des modifieurs portant sur l'événement interne (et donc l'événement associé à une supposée base verbale sous-jacente) : *un soufflé récent* (\neq qui vient de souffler), *les gros invendus* (\neq qui se sont beaucoup pas-vendus). Nous remettons la discussion des non-humains à la section 4 pour nous consacrer ici aux propriétés événementielles des noms d'humains en *-é/i/u*.

Ces noms diffèrent des formes en *-ant* en ce qu'ils nominalisent, non pas des sujets d'une prédication sous-jacente, mais des arguments internes, et réalisent communément le rôle Patient. Ceci est visible dans l'interprétation des dérivés en *-é/i/u* qui nominalisent des objets associés au rôle Patient, quelle que soit la sémantique lexicale du verbe de base. Ainsi, '*le blessé*' est celui qui est blessé, '*le pendu*' est celui qui est pendu, '*les bannis*' sont ceux qui sont bannis, '*le mal-aimé*' est celui qui n'est pas aimé, etc. En ce sens, les noms d'humains en *-é/i/u* se rapprochent donc davantage des noms en *-eur* qui nominalisent aussi un argument du verbe (en l'occurrence, l'argument externe).⁷

Contrairement aux noms en *-eur*, cependant, les dérivés en *-é/i/u* ne sont jamais interprétés comme des dispositions, mais doivent être liés nécessairement à un événement épisodique. Ainsi, par exemple, *un blessé* n'est pas "celui qui a la disposition à être blessé/ celui qui est habituellement blessé", *la mariée* n'est pas "celle qui a la disposition à être mariée / celle qui est habituellement mariée", *un pendu* n'est pas "celui qui a la disposition à être pendu / celui qui est généralement pendu".

En revanche, la présence d'un événement épisodique sous-jacent peut être démontrée par les tests de la modification adjectivale discutés dans la section 2. On observe notamment que les deux classes de modificateurs adjectivaux (*fréquent* vs. *heureux*) sont disponibles, ce qui rapproche, une fois encore, les noms en *-é/i/u* des noms en *-eur*, et les situe dans la classe des noms ayant une interprétation épisodique. Il n'y a donc aucune raison de penser que les formations en *-é/i/u* impliquent une interprétation statique de type propriété, à la différence des noms d'humains en *-ant*.

- (20) a. *un invité fréquent de notre émission* = que l'on invite fréquemment
 b. *un élu constant de cette circonscription* = qui est constamment réélu
- (21) a. *un grand blessé*
 b. *un heureux élu*⁸

7 Une note est requise sur la nature des données que nous considérons comme pertinentes ici. En effet, les formes en *-é/i/u* peuvent être nominales (*un pendu, un blessé*) ou adjectivales (*un homme pendu, une personne blessée*). Puisque le français admet les adjectifs nus directement introduits par un déterminant (comme *le rouge* ; Corblin 1990, Sleeman 1996, Marandin 1997), une forme en *-é/i/u* peut être soit une séquence Det-N soit une séquence Det-Adj-*pro*(vide). Nous sommes concernées ici par les 'vrais' noms seulement, à l'exclusion de ceux qui ont été appelés constructions Adj(*pro*) par Borer & Roy (2005). Seules les constructions véritablement nominales peuvent apparaître dans des contextes faibles :

- (i) a. *Quelques pendus/ des blessés étaient là.*
 b. **Quelques pro salis/ *des pro mouillés étaient là.*

8 Dans ce contexte, nous notons l'existence de constructions comme *nouveau-né* ou *bon vivant*, qui incluent une forme adjectivale qui a un rapport sémantique à l'événement de naître/vivre ; cependant, il n'est pas clair que ces formes adjectivales identifient véritablement un

Nous en concluons que les noms d'humains en *-é/i/u* sont dérivés directement de bases verbales, dont ils nominalisent l'argument interne.

Nous proposons que leur structure s'apparente donc à celle des *-eur* (modulo le type de position argumentale nominalisée). Le suffixe *-é/i/u* réalise l'argument interne ; le participe passé ainsi formé est nominalisé par l'intermédiaire d'un affixe nominal nul qui identifie la position argumentale. Deux structures sont logiquement possibles, une dans laquelle l'argument externe est aussi réalisé (22), et une dans laquelle il ne l'est pas (23). Nous allons montrer que seule (23) est la représentation correcte des nominalisations de participes passés.

(22) # [_N N e_i [Asp-V événement Sujet Objet_i- *-é/i/u*_i [racine ...]]

(23) [_N N e_i [Asp-V événement Objet_i *-é/i/u* [racine ...]]

En effet, une structure comme (22), qui implique le verbe et sa structure argumentale complexe (argument externe et interne), prédirait que l'argument externe peut aussi être réalisé dans les nominalisations d'humains en *-é/i/u*, puisqu'il est structurellement présent. Les données en (24) montrent, cependant, que l'argument externe n'est en réalité pas projeté.

- (24) a. **la mariée par le prêtre*
 b. **le détenu par la police*

En d'autres termes, les nominalisations d'humains en *-é/i/u* ne sont pas construites sur des formes passives, mais sur des structures dont l'argument externe est absent (comme en (23)).

Si cette analyse est correcte, de façon tout à fait intéressante, les noms en *-é/i/u* s'avèrent être la contrepartie 'interne' des noms en *-eur*, et non pas celle des noms en *-ant*. Par conséquent, la présence d'une forme participiale sous-jacente à la dérivation ne laisse pas directement prédire les propriétés sémantiques et de structure interne des déverbaux d'humains. Il n'y a, par exemple, pas de relation évidente entre dérivation sur base participiale et nécessité d'introduire une relation de prédication. Les noms d'humains en *-ant* et en *-é/i/u* exhibent des propriétés d'événement, d'aspect et de structure argumentale, suggérant qu'ils sont tous construits sur des bases verbales, de même que les noms d'humains déverbaux en *-eur*. Les différences interprétationnelles entre ces différents déverbaux dérivent de différences structurelles profondes.

événement dans la structure du nominal, comme il s'agit de formes qui soit sont des composés, soit ont fait l'objet d'une lexicalisation.

4. Instruments, produits et autres non-humains

4.1. Nominalisation sur bases de racines

Comme nous l'avons remarqué, les noms inanimés, contrairement aux animés qui ont été présentés en section 2 et 3, sont dénués de propriétés verbales et événementielles. Nous avons fait l'hypothèse que cette différence est représentée structurellement comme une différence de base de formation, verbale dans le cas des événementiels complexes (25), et une simple racine dans le cas des inanimés (26). Les représentations pertinentes, que nous reprenons ci-dessous, implémentent cette analyse formellement :

- (25) a. *-ant* : $[_N N [_{PredP} \emptyset_i [ASP/V \text{ événement} \text{ Sujet}_i \text{ -ant} \text{ Objet } [_{racine}]]]]$
 b. *-é/i/u* : $[_N N e_i \quad [Asp-V \text{ événement} \text{ Objet}_i \text{ -é/i/u} \quad [_{racine} \dots]]]]$
- (26) *-ant / -é/i/u* : $[_N N \text{ -é/i/u / -ant} \quad [_{racine}]]$

L'absence d'événement interne pour les inanimés en *-ant* et *-é/i/u* est montrée clairement par les tests de la modification adjectivale. Rappelons que l'événement interne est diagnostiqué par la compatibilité avec les adjectifs (non-intersectifs) orientés vers l'événement comme *vieux*, *grand*, *gros*, contexte dans lequel les inanimés en *-ant*, et en *-é/i/u* ne peuvent pas apparaître. En (27-28), la lecture de l'adjectif orientée vers l'événement est systématiquement bloquée :

- (27) a. *un vieux tranquillisant* (\neq qui tranquillise depuis longtemps)
 b. *un gros amincissant* (\neq qui amincit beaucoup)
 c. *le petit détachant* (\neq qui détache peu, des petites taches)
- (28) a. *un récent arrondi* (\neq qui vient d'être arrondi)
 b. *un petit soufflé* (\neq qui a peu soufflé)
 c. *un gros sablé* (\neq qui fait beaucoup de miettes, de sable)
 d. *les vieux invendus* (\neq qui ne sont pas vendus depuis longtemps)

Les noms inanimés en *-ant* et *-é/i/u* n'ont donc pas d'éventualité sous-jacente ; ce que nous interprétons, dans notre cadre, par une dérivation sur la base d'une racine et non pas d'un verbe.

Cette analyse est confirmée par l'absence d'une autre propriété des verbes, à savoir la structure argumentale. Contrairement aux noms d'événement dérivés verbaux, comme *la destruction de la ville par l'ennemi*, qui doivent nécessairement réaliser la structure argumentale du verbe lorsqu'ils reçoivent la lecture événementielle, les noms inanimés en *-ant* et *-é/i/u* ne réalisent jamais d'arguments. En (29), les compléments

doivent être introduits par des prépositions pleines, qui expriment le but ou la destination ; et ne sont pas de simples arguments internes du verbe.

- (29) a. *un tranquillisant *d'animaux vs. pour animaux*
b. *un amincissant *de corps vs. pour le corps*
c. *le détachant *de moquette vs. à moquette/ pour cuir*

Puisqu'ils n'exhibent aucune des propriétés communément associées aux verbes (structure argumentale et lecture événementielle), les noms inanimés en *-ant* et *-é/i/u* ne peuvent pas être dérivés de bases verbales. Nous acceptons plutôt une dérivation sur une simple racine, qui implique les affixes nominalisants (*-ant* et *-é/i/u*). Ces affixes se trouvent avoir la même forme que les flexions participiales réalisant des projections d'Aspect dans la structure des participes, mais réalisent ici simplement le niveau N, avec une sémantique du type entité.⁹

4.2. Spécialisation des formes et sens

Notre analyse, qui réduit les inanimés en *-ant* et *-é/i/u* à une seule et unique structure (cf. 26), semble, *a priori*, incompatible avec une tendance observable à une interprétation sujet des formes inanimées dérivées sur *-ant* (*un dissolvant* est un produit qui sert à dissoudre, *un adoucissant* est un produit qui adoucit le linge, etc) et à une interprétation objet des formes inanimées dérivées sur *-é/i/u* (*un arrondi* est la chose qui a été arrondie, *les invendus* sont les choses qui n'ont pas été vendues, etc.). Cette spécialisation apparente des formes appelle un commentaire.

Dans ce contexte, nous observons, tout d'abord, d'une part, que cette spécialisation est visible même dans des formations sans base verbale associée (30). Ces données montrent que l'interprétation sujet / objet n'est pas associée à un verbe sous-jacent, et pas davantage, par conséquent, à une position argumentale :

- (30) *détergent* ("qui nettoie") ; *sablé* ("qui est comme du sable") ; etc.

D'autre part, l'interprétation sujet pour les *-ant* et objet pour les *-é/i/u* se confirme comme une tendance bien plus qu'une règle, puisqu'elle disparaît complètement dans les cas comme (31), qui dérivent des objets pouvant être des instruments ou des moyens mais sans aucun rapport avec une éventuelle structure argumentale :

9 Nous ne nous prononcerons pas ici sur le rapport en diachronie entre affixes nominalisants et flexion participiale. Notons que ce type de situation se retrouve dans d'autres cas à travers la langue. En effet, on constate, par exemple, une 'évolution' vers le figement ou la lexicalisation des flexions participiales qui introduisent la catégorie adjectivale dans le cas des participes adjectivaux. En synchronie, toutefois, cette analyse est motivée par les propriétés sémantiques et syntaxiques des dérivés nominaux.

- (31) *adjuvant* (“produit que l’on ajoute pour”); *doigté* (“manière de placer les doigts sur un instrument”); etc

L’interprétation sujet pour les *-ant* est aussi perdue dans des formes figées dans lesquelles il n’est pas possible de retrouver de base verbale claire.

- (32) a. *stupéfiant* (≠qui stupéfie); *collant* (≠qui colle); *volant* (≠qui vole); *croissant* (≠qui croit)
b. *tournant* (≠qui tourne, mais : endroit où l’on doit tourner); *levant* (endroit où le soleil se lève);
c. *pliant* (≠qui plie, mais : chaise de plage pliante); *dépliant* (≠qui déplie, mais : document qui se déplie);
d. *gisant* (= la statue allongée mais pas la personne elle-même); *le tranchant* (du couteau) (≠qui tranche, mais : qui sert à trancher); *cicatrisant* (qui fait cicatriser);
e. *anti-coagulant* (contre que le sang coagule); *anti-givrant* (contre que le liquide givre)

De même pour les noms inanimés en *-é/i/u*, qui présentent de nombreuses occurrences dans lesquelles l’objet n’est pas recouvrable et ne peut être associé à une base verbale claire :

- (33) *jeté* (≠ qui est jeté) ; *étendue* (≠ qui s’étend) ; *revenu* (≠ qui revient) ; *bâti* (≠ qui est bâti) ; *crépi* (≠ qui est crépi) ; etc

Ces faits vont dans le sens d’un plus large spectre d’interprétation que les simples associations vers des sujets / objets communément notées. L’hétérogénéité des lectures ainsi que le caractère figé de certaines formes sont expliqués par l’absence de base verbale, et donc de contribution sémantique / argumentale / événementielle liée au verbe. Les *-ant* et les *-é/i/u* inanimés entretiennent une certaine relation sémantique avec le verbe, puisqu’ils partagent les mêmes racines, et donc un sens encyclopédique commun, mais ne partagent pas les propriétés liées à la catégorie lexicale du verbe. Nous nous attendons en toute logique à une plus grande variabilité dans le sens de la forme résultant de la nominalisation. La base verbale, en contrepartie, contraint le sens de la nominalisation par ses propriétés aspectuelles / événementielles.

5. Sens et structure des nominalisations de participes : quelques remarques de conclusion

5.1. Participes passé vs. présent : prédire le lien entre l'argument nominalisé et la forme participiale

Nous avons montré ci-dessus que la spécialisation sujet / objet pour les inanimés n'est pas réelle, et nous avons associé l'hétérogénéité des interprétations à l'absence de base verbale. Dans le cas des noms animés, nous notons qu'on assiste à une véritable spécialisation à caractère régulier pour désigner des sujets, dans le cas des *-ant*, et des objets, dans le cas des *-é/i/u*. La spécialisation sujet / objet, ainsi que la répartition des sens entre bases participiales passées et présentes est prédite par la nature même de la base. Rappelons que les nominalisations de participes passés ont une structure réduite (voir (23) section 3) qui ne projette que les niveaux verbaux / aspectuels bas – niveaux correspondant à l'argument interne. Les participes passés/passifs sont soit des formes perfectives, soit des constructions réduites centrées sur l'argument interne. Par hypothèse, l'argument externe a été absorbé par la morphologie participiale (dans le cas du passif) ou bien celui-ci n'est tout simplement pas projeté (pour les degrés de structure incarnés par les participes, voir plus généralement Kratzer 1994, Embick 2004, Sleeman 2011). Par conséquent, la seule position argumentale disponible est celle de l'argument interne, menant systématiquement à une interprétation d'objet pour les noms déverbaux formés sur les participes passés en *-é/i/u*.

Pour le participe présent, la nominalisation prend en compte la composante aspectuelle qui, comme le gérondif en *-ing* en anglais par exemple, projette un niveau d'aspect haut, associé à l'argument externe, ce qui est, à travers les langues, une propriété des formes participiales imperfectives. De ce fait, la spécialisation pour le sujet découle du domaine nominalisé comportant des niveaux verbaux et une position d'argument externe. Ce point apporte un argument supplémentaire pour le traitement des nominalisations de participes comme la nominalisation de structures fines et complexes, à partir desquelles le sens est composé, et non pas de simples 'conversions' de participes.

5.2. Dérivation et domaines de nominalisation

Ce travail sur les noms d'humains dérivés de participes a permis de montrer qu'il existe bien une corrélation entre la présence de propriétés événementielles (dans les noms d'humains en *-ant* et *-é/i/u*) ou l'absence de ces propriétés (dans les noms d'instruments ou substances) et la structure sur laquelle ces noms sont construits : à base verbale ou à base racine. Notre analyse rejoint sur ce point les travaux classiques sur la nominalisation.

Parmi les déverbaux à proprement parler, plusieurs cas doivent être distingués selon les propriétés internes de leur structure fine, qui joue un rôle essentiel dans le calcul du sens. Ainsi, bien que l'on parle de déverbaux à la fois pour les noms d'humains en *-eur* et en *-ant*, ces derniers mettent en lumière des propriétés distinctives, par comparaison avec les noms déverbaux affixés. Les noms en *-ant*, qui ne sont pas dérivés directement sur la structure argumentale de la base, mais sur une structure participiale introduite par un domaine de prédication, comportent une composante de stativité. Il s'avère donc que pour dériver le type de propriétés événementielles rencontrées dans les déverbaux il est nécessaire de prendre en compte non seulement la simple présence d'une structure verbale mais aussi la contribution éventuelle de niveaux qui dépassent la structure verbale (argumentale) proprement dite.

Ce résultat soulève la question des domaines d'interprétation pertinents pour la nominalisation. Le niveau de prédication introduit un domaine extérieur à la structure verbale (VP), ayant comme conséquence que les niveaux sous-jacents au groupe verbal ne contribuent pas directement à l'interprétation générale de la nominalisation. Le sens compositionnel semble donc prendre en compte des domaines de structure sans atteindre les éléments internes qui les composent directement.

Dans notre approche, et par définition, la nominalisation comme procédé de formation de mots introduisant un changement catégoriel, est la dernière opération en place dans une dérivation, et sélectionne le niveau le plus haut de structure disponible. Ceci est impliqué par les deux structures disponibles pour les noms déverbaux – une structure complexe avec niveaux déverbaux animés-événementiels et une structure simple (racine) pour les noms inanimés-référentiels. Pour les noms d'humains affixés (noms en *-eur* et *-é/i/u*), le niveau le plus haut est équivalent à la structure argumentale (un groupe verbal incluant l'argument externe et interne dans le cas des *-eur* animés ; n'incluant que l'argument interne dans le cas des *-é/i/u* animés).

En revanche dans le cas des noms en *-ant*, la nominalisation s'applique à une structure qui comporte un domaine de prédication PredP (comportant une position sujet propre). Cette différence est fondamentale, puisqu'elle force la sélection du PredP et non pas du VP. De manière comparable aux structures d'enclassement au niveau phrastique, nous avons affaire à deux domaines prédictifs différents : le domaine inférieur représenté par le niveau VP (le groupe verbal incluant les niveaux responsables de l'introduction des arguments et des variables d'événement), et le domaine supérieur représenté par PredP. Selon notre analyse, seul compte le domaine supérieur, où se fait le calcul interprétatif. Ainsi, ce qui va être pertinent pour la nominalisation par *-ant* (non-affixale) est la position sujet de la prédication (PredP). La nominalisation n'a pas accès au domaine inférieur, ce qui explique l'absence d'accès direct à la structure argumentale et donc, l'absence de nominalisation de l'agent et l'absence de contribution de l'argument interne dans la composition du sens de la nominalisation.

Ces résultats suggèrent que les nominalisations se font sur la base de domaines de sens et de structures complexes mais dont certains seulement permettent un accès direct à leurs propriétés sémantiques et syntaxiques internes. La définition de ce qui compte comme un domaine “opaque” semble s’appuyer fortement sur la notion de prédication ou domaine prédicatif. Il est possible que ces mêmes principes expliquent l’impossibilité de nominaliser la plupart des verbes à complément propositionnel (*croire que la fête est finie* — **la croyance que la fête est finie* ; *voir que Jean est fatigué* – **la vision que Jean est fatigué* ; *imaginer que les licornes existent* – **l’imagination que les licornes existent* ; *penser que la Terre est ronde* — **le penseur que la Terre est ronde*). Nous laissons cette question ouverte, cependant, pour de futurs travaux.

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Résumé en français

Cet article s’intéresse aux formes nominalisées exprimant des humains ou des produits/substances du type *un habitant*, *un mendiant*, *des collants*, et *le blessé*, *un pendu*, *un insoumis*, *un soufflé*. Ces formes diffèrent des autres nominalisations déverbiales en ce qu’elles ne dérivent pas directement de verbes, mais de leurs formes participiales présentes (en *-ant*) ou passées (en *-é/i/u*). Dans la perspective d’intégrer les noms en *-ant* et *-é/i/u* à une théorie plus générale des nominalisations déverbiales, inscrite dans une approche syntaxique au lexique dérivé, nous nous interrogeons sur l’héritage ou non de la sémantique lexicale du verbe et des propriétés de structure argumentale et aspectuelle associées. Nous discutons les conditions selon lesquelles, dans la mesure où ils impliquent des dérivés de participes, cette situation peut contribuer à l’interprétation de la forme nominalisée. Nous montrons que les dérivés en *-ant* sont dérivés de sujets de prédications, alors que les dérivés en *-é/i/u* sont de nominalisations d’argument interne du verbe sous-jacent directement.

Mots-clé : participes, approche syntaxique, argument, aspect, prédication

Résumé en anglais

This article is concerned with derived nominals expressing humans or instruments/substances of the type *un habitant* ‘inhabitant’, *un mendiant* ‘beggar’, *des collants* ‘stockings’, et *le blessé* ‘wounded’, *un pendu* ‘hanged man’, *un insoumis* ‘untamed’, *un soufflé* ‘soufflé’. These forms differ from other deverbal nominals in that they are not derived from a verb directly, but from its past (*-é/i/u*) or present (*-ant*) participial forms. In an attempt to integrate such forms into a more general theory of nominalization, based on a syntactic approach to the lexicon, we discuss the heritage or absence of heritage of the lexical semantics of the verbs and their related argumental and aspectual properties. We address the conditions under which the underlying participial form can contribute to the interpretation of the outcome of the nominalization. We argue, specifically, that *-ant* nominals are derived from the subject of a predication; whereas *-é/i/u* nominals are the nominalization of the internal argument directly.

Deadjectival nominalizations and the structure of the adjective

Isabelle Roy

1. Introduction

Much work on nominalizations is concerned with deverbal nominals (Chomsky 1970; Grimshaw 1990; Picallo 1991; Marantz 1997; Alexiadou 2001; Borer 2003, among many others), and much less attention has been paid in the literature to deadjectival nominals, i.e., nominals derived from adjectives, as in French *nu-nudité*, *abstrait-abstraction*, and their English counterparts *nude-nudity*, *abstract-abstraction*. In this paper, I analyze the formation of deadjectival nominals and their internal syntactic and semantic properties.

Let us start with a puzzle. In the pair in (1), an intuitive relationship exists between the nominal (1b) and its predicative counterpart involving the related adjective (1a):

- (1) a. *Cette voyelle est nasale.*
this vowel is nasal
b. *la nasalité de cette voyelle*
the nasality of this vowel

The nominal *nasalité* shares with the adjective *nasal* a core meaning (i.e., abstract lexical concept related to ‘nose’) and a clear morphological root (i.e., /nazal/ in French). Both the adjective and its morphologically related nominal share also an argument structure. In both cases in (1), the nominal phrase *cette voyelle* ‘this vowel’ expresses the holder of the state described by the adjective (and is realized as an external argument; cf., (1a)) or the nominal (and is introduced in a *de*-phrase complement of the nominal head; cf., (1b)). Indirect arguments, as in (2), further emphasize the same point:¹

¹ Exceptions exist, but are presumably only linked to the fact that French does not allow multiple *de*-phrases (i). See also footnote 11:

- (i) a. *Pierre est fier de ses enfants.*
Pierre is proud of his children
b. *la fierté de Pierre *de ses enfants / pour ses enfants.*
the pride of Pierre of his children for his children

- (2) a. *Tom est gentil envers sa mère*
 Tom is kind towards his mother
 b. *la gentillesse de Tom envers sa mère*
 the kindness of Tom towards his mother

There are, thus, reasons to believe that the nominal *nasalité* is derived from *nasal* and that such derivation is achieved through affixation with the nominal morpheme *-ité* to the adjectival form *nasal*.

Adjectives can also be used attributively, i.e., as noun modifiers, and it is not surprising to find pairs such as (3) in parallel of (1):

- (3) a. *une voyelle nasale*
 a vowel nasal
 ‘a nasal vowel’
 b. *la nasalité de la voyelle*
 the nasality of the vowel

What is surprising, however, is the contrast between (3) and (4), below. While nominalization of *nasal* is possible when it modifies *voyelle* ‘vowel’ in (3), it is impossible when it modifies *cavité* ‘cavity’ in (4) (see also Fradin and Kerleroux 2003). Given the existence of the form *nasalité* in French, derived from the adjective *nasal*, the ungrammaticality of (4b) compared to the grammaticality of (3b) is rather unexpected:²

- (4) a. *une cavité nasale*
 a cavity nasal
 ‘a nasal cavity’
 b. **la nasalité de la cavité*
 the nasality of the cavity

Such contrasts are *not* isolated and can easily be repeated for other adjectives as well (examples accredited to Dell 1970 in Fradin and Kerleroux 2003):

² Importantly, *cavité nasale* is not an idiom and the meaning of the adjective is clearly retrievable, as found in (i) as well. In principle, thus, there is no structural effect blocking the nominalization in (4b) and the adjective *nasal* in (4) should be a potential candidate for a nominalization:

- | | | |
|--------------------------------|-------------------------|-------------------------------|
| (i) a. <i>écoulement nasal</i> | b. <i>artère nasale</i> | c. <i>protubérance nasale</i> |
| discharge nasal | artery nasal | bump nasal |
| ‘nasal discharge’ | ‘nasal artery’ | ‘nasal bump’ |

- (5) a. *une chanson populaire*
a song popular
‘a popular song’
b. **la popularité de cette chanson*
the popularity of this song
- (6) a. *les traditions populaires*
the traditions popular
‘the people’s traditions’ (cf. popular beliefs, popular vote)
b. **la popularité de ces traditions*
the popularity of these traditions

Fradin and Kerleroux (2003) have noted that ‘relational’ adjectives (Bally 1944; Levi 1978; McNally and Boleda 2004; Fábregas 2007) resist systematically the formation of abstract nominals with *-ité*, while qualifying adjectives allow it. Whereas this would explain the contrast between (3) and (5) (with a qualifying adjective) vs. (4) and (6) (with a relational one; more on this below), (7) and (8) show that, in actuality, the contrast is more general and goes beyond relational adjectives (and a particular nominal affix). Non-relational, non-derived adjectives can also resist nominalization in certain contexts:

- (7) a. *une peinture abstraite*
a painting abstract
‘an abstract painting’
b. *l’abstraction de cette peinture*
the.abstraction of this painting
- (8) a. *un peintre abstrait*
a painter abstract
‘an abstract painter’
b. **l’abstraction de ce peintre*
the.abstraction of this painter

In what follows I shall argue that the formation of deadjectival nominals is constrained in a very systematic way by the (semantic) type of the ‘base’ adjective, restricting them to intersective adjectives only; i.e., descriptively, to those found also in predicative positions.³

³ I share with Fradin and Kerleroux (2003) the idea that the ability for an adjective to be nominalized is linked to its predicativity. As I will argue in this article,

I will argue that this generalization finds a simple explanation if we assume a dual source for the adjective. Adjectives that can be used predicatively (henceforth, *predicative* adjective) are generated in a predicative structure (PredP), even when they appear as N-modifiers; whereas adjectives that can never be used predicatively (henceforth, attributive adjectives) are generated in a simple AP. Assuming a syntactic view on word formation (as in the framework of Distributed Morphology Halle and Marantz 1993; Marantz 1997 and in Borer 2003, 2005), the nominalizing suffixes are the realization of a predicative head in the nominal domain, reducing, thereby, the class of adjectives that can form the base to a nominalization to the ones that are generated in a predicative structure.

This analysis raises some interesting puzzles. It has been claimed for deverbal nominals that the realization of nominal arguments correlates with an event reading (cf. Grimshaw 1990), and in recent syntactic accounts, both are related to the presence of an underlying verbal structure (eventive and/or aspectual; see, for instance, Alexiadou 2001; Borer 2001). If the formation of nominals from adjectives is in any way comparable, and if all deadjectival nominals must have a predicative base, we would expect all deadjectival nominals not only to have arguments but also to have an eventuality reading. As I shall argue, however, deadjectival nominals belong to two classes with distinct properties; in particular one which does support argument structure and an eventuality interpretation and another one which, *prima facie*, does not.

2. (Semantic) classes of adjectives

The semantic class of the base adjective seems to play a crucial role in allowing nominalizations. Before entering into the details of the patterns of nominalizations in section 3, this section briefly reviews the traditional adjective classification based on Kamp and Partee (1995); Partee (1995) (except where noted), and my own assumptions regarding the mapping between the semantics of adjectives and their internal structure.

however, this is true for a wider range of adjectives than the ones they originally considered.

2.1. Intersective vs. non-intersective As

The first important distinction made among adjectives modifying a nominal is between *intersective* and *non-intersective* adjectives.⁴ For *intersective* adjectives, the adjective-noun combination denotes an intersection between two sets. Both the adjective and the noun are one-place predicates, denoting sets; and their combination, interpreted as predicate conjunction, denotes the intersection between the two sets.⁵

(9) Intersective As

- a. $\|\text{carnivorous}\| = \{x \mid \text{carnivorous}(x)\}$
 $\|\text{mammal}\| = \{x \mid \text{mammal}(x)\}$
 $\|\text{carnivorous mammal}\| = \{x \mid \text{carnivorous}(x) \ \& \ \text{mammal}(x)\}$
- b. $\|A \ N\| = \|A\| \cap \|N\|$

Intersective adjectives give rise to valid inferences of the type in (10):

- (10) This is a carnivorous mammal
 This is a rat
 \therefore This is a carnivorous rat

Non-intersective adjectives, on the other hand comprise a variety of adjectives, including *subsective*, *adverbial* and *privative* As. With *subsective* As, the adjective-noun combination is interpreted as a subset of the set denoted by N alone. Two sub-groups are commonly distinguished: *relational* As (cf.,

⁴ As well known, many adjectives are in fact ambiguous between the two readings:

- (i) *Olga is a beautiful dancer.*
 - a. Olga is beautiful and she is a dancer intersective
 - b. Olga is beautiful *as* a dancer non-intersective
- (ii) *I am drinking a hot chocolate.*
 - a. what I am drinking is hot and is a chocolate intersective
 - b. what I am drinking is a hot *type* of drink non-intersective

⁵ Certain intersective adjectives like *tall*, *big*, *wide* are context-dependent and vague, and must be interpreted relatively to a comparison class (e.g., *tall for a toddler* vs. *tall for a building*, etc.). They appear, then, to fail the inference test of (10). Vagueness is different, however, from non-intersectivity (cf. Kamp 1975; Siegel 1976; Kamp and Partee 1995; Larson 1999). Siegel (1976) argues, for instance, that the true non-intersective subsective adjectives occur with *as*-phrases, in English, as in *skillfull as a surgeon*, whereas vague intersective adjectives occur with *for*-phrases to indicate comparison class as in *tall for a 12-year old*.

Bally 1944; Levi 1978; Fábregas 2007): e.g., *industrial, atomic, national* (11a); and *event* modifying As (cf., Larson 1998): e.g., *good, skillful, beautiful* (11b):

- (11) Subjective As:
- a. Relational As:
Yosemite is a national park
 \neq Yosemite is national and Yosemite is a park
 $=$ Yosemite is a national *type* of park
 - b. Event modifying As:
Olga is a skillful surgeon
 \neq Olga is skillful and Olga is a surgeon
 $=$ Olga is skillful *as* a surgeon
 - c. $\|A\ N\| \subseteq \|N\|$

For these adjectives, the semantics in (11c) holds for one N only; and inferences as in (12), below, are never valid:

- (12) Olga is a skillful surgeon
 Olga is a mother
 \therefore Olga is a skillful mother [not valid]

Other adjectives are *non-subjective*. They split traditionally into two groups: ‘plain’ non-subjective (that have no entailments) and ‘privative’ non-subjective (entailing the negation of the noun property). *Plain non-subjective* adjectives are the ones Bolinger (1967); Larson (1998) call *adverbial* As: e.g., *former, alleged, future, possible, frequent*. In combination with a noun, they denote neither a set intersection nor a subset, but rather are interpreted as adverbs, at the sentence level:

- (13) Adverbial As:
- a. *Craig is a former senator.*
 \neq Craig is former and Craig is a senator
 \neq Craig is former as a senator
 $=$ Craig was *formerly* a senator
 - b. $\|A\ N\| \neq \|A\| \cap \|N\|$
 $\|A\ N\| \not\subseteq \|N\|$

For *privative adjectives* (e.g., *fake, spurious, imaginary, fictitious*), the intersection of the denotation of the adjective-noun combination with the denotation of N alone gives the empty set:

- (14) Privative As:
- a. *This is a fake fur.*
 \neq this is fake and this is a fur
 $=$ this is *not* a fur
 - b. $\|A\ N\| \cap \|N\| = \emptyset$

I will follow Partee (2003), however, in assuming that they can be treated as intersective,⁶ once the domain of objects is extended to include fake objects. Real non-subjective adjectives are adverbial only.

2.2. Predicative vs. attributive As

Adjectives have two well-known main uses. A *predicative* use, i.e., in construction with the copula (e.g., *this woman is sick*) or as secondary predicate inside a small clause (e.g., *we believed her sick*), and an *attributive* use, i.e., as a noun modifier (e.g., *a sick woman*).

The different classes of adjectives introduced above distribute in the two uses in a very systematic way. While all adjectives have an attributive use (cf., previous sub-section), all and only intersective adjectives have, in addition, a predicative use. Intersective adjectives are one-place predicates. They can either combine with a noun and give rise to predicate conjunction, source of the *intersective* reading; or be used predicatively and denote functions from entities to truth-values.

Unambiguously non-intersective adjectives can only be found in attributive positions and are, thus, simply ungrammatical in predicative context:

- (15) a. *an utter mistake* vs. **This mistake is utter.*
 b. *an alleged criminal* vs. **This criminal is alleged.*
 c. *the former prime minister* vs. **The prime minister is former.*

And for adjectives that are ambiguous between an intersective and a non-intersective reading while in attributive position, only the intersective interpretation remains when used predicatively:

⁶ In actuality, Partee claims that privative adjectives are subjective. But as McNally and Boleda (2004) pointed out, her semantic analysis is intersective insofar as she treats them as simple properties, once the domain of objects is extended to include fake objects.

- (16) a. *a beautiful dancer*
 = 'beautiful as a dancer' non-intersective
 = 'beautiful (person) and is a dancer' intersective
 b. *That dancer is beautiful.* intersective only
- (17) a. *a hot chocolate*
 = 'a hot type of drink' (may be cold) non-intersective
 = 'a chocolate and is hot' intersective
 b. *My chocolate is hot.* intersective only
- (18) a. *the poor child*
 = 'the unfortunate child' non-intersective
 = 'the moneyless child' intersective
 b. *This child is poor.* intersective only

It has been claimed in recent years that certain relational, hence subjective, adjectives do have post-copular predicative uses (cf., Demonte 1999; McNally and Boleda 2004; examples adapted from McNally and Boleda 2004):

- (19) a. *an international conference*
 b. *This conference is international.*

This is only true, I believe, of relational adjectives that are ambiguous with an intersective reading. This is the case with the adjective *international*, which can have the two readings when in attributive context; while it is intersective only in predicative use:

- (20) a. *une conférence internationale*
 a conference international
 'an international conference'
 = 'accepts abstracts from everywhere' non-intersective
 = 'people come from everywhere' intersective
 b. *Cette conférence est internationale* intersective only
 this conference is international

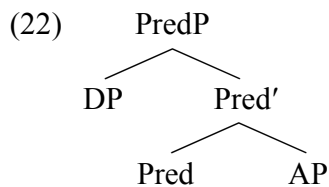
True relational adjectives can never appear in post-copular predicative contexts, as expected:

- (21) a. *un bâtiment municipal* vs. **Ce bâtiment est municipal.*
a building municipal this building is municipal
‘a town building’
- b. *une bombe atomique* vs. **Cette bombe est atomique.*
a bomb atomic this bomb is atomic
‘an atomic bomb’

2.3. A structural source for intersectivity

I will assume that the mapping between predicativity and intersectivity finds its source in a structural difference between adjectives that can be used predicatively and those that are attributive only. In what follows I shall use the term “predicative” adjective to refer to adjectives that *can* be used predicatively; and the term “attributive” adjective to refer to adjectives that are *only* found in attributive contexts.

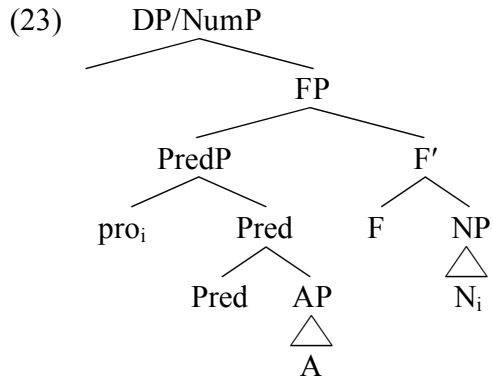
Descriptively, what distinguishes predicative adjectives from attributive adjectives is their ability to take a subject. In construction with the copula or in secondary predications, they originate inside a small clause where the predicational relationship between the adjective and its external argument is established. As in recent accounts, I will assume that all predicational relationships are mediated syntactically through the projection of a functional predicational head *Pred* (cf., Bowers 1993; Svenonius 1994; Adger and Ramchand 2003). *Pred* selects as its complement a property (here, an AP) and turns it into a predicate of type $\langle e,t \rangle$. It introduces an external argument for the predicate constructed by the head and its complement. The referential DP in the specifier position of *PredP* is interpreted as the holder of the stative predicate thus formed:



The intersective semantics of predicative adjectives is linked to the presence of the head *Pred*, which, I propose, is responsible for introducing a conjunction operator ‘ \wedge ’, source of the intersective interpretation.

Following this rationale, I propose that all intersective adjectives are constructed in a *PredP*, not only in the clausal domain, but also when they

occur as nominal modifiers inside a nominal phrase. In that case, and abstracting away from standard issues related to the placement of pre-/post-nominal adjectives and the order of adjectives inside DP, they are selected directly by a functional nominal head inside DP.⁷

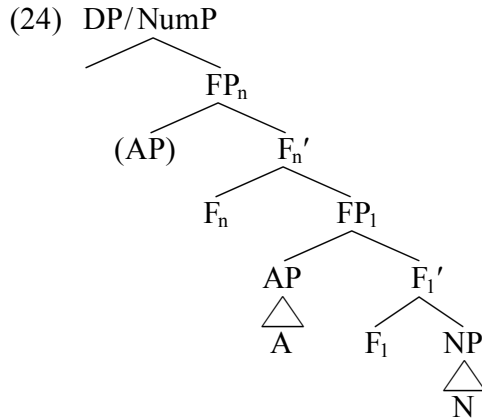


In this context, the external argument in the specifier of PredP is realized as a null proform *pro*, whose interpretation is fixed by co-indexation with the nominal head N the adjective modifies. In (23), both the AP and the NP coindexed with *pro* denote sets; Pred introduces the conjunction operator, and it is the presence of a Pred that gives rise to a set conjunction interpretation: $AP \cap NP$.

By contrast, attributive adjectives, which can never appear as predicates, are never introduced in a PredP, but originate instead as a simple AP in the specifier of an adjective licensing functional projection within DP (as most commonly assumed; see in particular Cinque 1994):⁸

⁷ The exact nature of the heads F is left undefined for the time being. It is conceivable, however, that the Fs are specific, ordered along a particular functional sequence and each select for a specific PredP or AP, as in recent accounts of adjective order and semantic ambiguity (Truswell (2004); Svenonius (2008), for instance). I leave this issue open for further investigation.

⁸ On the double source for the adjective see also Siegel (1976) and more recently Alexiadou and Wilder (1998) (wrt. definiteness spreading in Greek); Demonte (1999), and Cinque (2003).



The non-intersective semantics of attributive adjectives is linked to the absence of Pred (and, by assumption, a conjunction operator). The subjective interpretation, however, follows from no additional assumption. As normally the case for a sequence of functional heads, the semantic output of the highest head is a subset of the head embedded below it (cf., for instance, the functional decomposition of pronouns, the functional domain of DP, and the Tense/Aspect domain). In a sequence of attributive adjectives, each is introduced as the specifier of its own, distinct, functional projection FP_1, \dots, FP_n . Accordingly, the denotation of NP (the most embedded projection) is a subset of the denotation of the functional projection above it FP_1 , which is itself a subset of FP_n : $FP_n \subseteq FP_1 \subseteq NP$.

One case remains, that of adverbial As, that are neither subjective nor intersective. Syntactically, however, I will follow Larson (1999) in assuming that they attach higher than the DP level, and presumably at the sentence-level. The non-subjective interpretation comes, here, from the particular position of these APs, outside the DP domain; and in this case as well, the non-intersective semantics correlates with the absence of a Pred head.

3. Patterns of nominalizations

Turning to the patterns of deadjectival nominalizations, I will argue that nominalizations are possible with one type of adjectives only, namely, our PredPs, but not with the other, i.e., our bare APs. This means that all adjectives that can form the base for a nominalization must have a post-copular predicative use as well, making a clear distinction between intersective adjectives, on the one hand, and the rest (i.e., subjective, whether relational or event modifying, and adverbial adjectives), on the other.

Consider, again, the pair presented in introduction and repeated below:

- (25) a. (i) *une voyelle nasale*
 a vowel nasal
 ‘a nasal vowel’
 (ii) *la nasalité de la voyelle*
 the nasality of the vowel
 b. (i) *une cavité nasale*
 a cavity nasal
 ‘a nasal cavity’
 (ii) **la nasalité de la cavité*
 the nasality of the cavity

The crucial difference between the use of the adjective nasal in the (a) example and the (b) example is that in the former case it is intersective, whereas in the latter it is relational and, therefore, subsective. The syntactic difference between the two classes is well-known (Bally 1944; Levi 1978; Fábregas 2007): relational adjectives do not denote gradable properties, and thus can never take degree modifiers; they cannot occur pre-nominally in Romance languages; and importantly, they do not have a predicative use.

Two distinct properties might, thus, be at play in the contrast in (25): gradability and/or predicativity. Gradability, however, must be ruled out as a blocking factor for nominalizations. This can easily be seen in the two examples in (25), above, involving both a non-gradable adjective: **une voyelle très nasale* ‘a very nasal vowel’/ **une cavité très nasale* ‘a very nasal cavity’; and is clearly confirmed by the contrast in (26), below. The adjective *vieux* ‘old’ is ambiguous between an intersective reading, where it means ‘aged’, and a non-intersective reading, where old modifies the actual duration of the friendship (26a). Both uses of *vieux* involve, this time, gradable properties (26b), although one only, namely the intersective one, allows for a nominalization (26c):

- (26) a. *un vieil ami*
 an old friend
 = ‘aged’ or ‘long time friendship’
 b. *un très vieil ami*
 a very old friend
 = ‘very aged’ or ‘very long friendship’
 c. *la vieillesse de mon ami*
 the oldness of my friend
 = ‘aged’ only

Instead, the relevant blocking property of relational adjectives as in (25) is that they do not have a predicative use, and, in our terms, are APs rather than PredPs. Only the intersective adjective *nasal* has a predicative use in addition to its attributive use (compare (27a-i) with (27b-i)), correlating with a nominal form (cf., (27a-ii) vs. (27b-ii)):

- (27) a. (i) *Cette voyelle est nasale*
 this vowel is nasal
 (ii) *la nasalité de la voyelle*
 the nasality of the vowel
 b. (i) **Cette cavité est nasale*
 this cavity is nasal
 (ii) **la nasalité de la cavité*
 the nasality of the cavity

This generalization is supported by other non-intersective (and thus non-predicative) adjectives, namely, event modifying As (cf., (28), and compare with (26)) and adverbial As (e.g., modal, as in (29); emotive, as in (30); temporal, as in (31)).⁹

- (28) a. *Cet ami est vieux*
 this friend is old
 = ‘aged’ only
 b. *la vieillesse de mon ami*
 the oldness of my friend
 = ‘aged’ only
- (29) a. (i) *un choix possible*
 a choice possible
 ‘a possible choice’
 (ii) *Ce choix est possible*
 this choice is possible
 (iii) *la possibilité de ce choix*
 the possibility of this choice
 b. (i) *un ennemi possible*
 an enemy possible
 ‘a possible enemy’

⁹ Note that the noun *ancienneté* does exist in French, but means ‘seniority’, and is not related to the adjective *ancien* ‘former’.

- (ii) **Cet ennemi est possible*
 this enemy is possible
- (iii) **la possibilité de cet ennemi*
 the possibility of this enemy

- (30) a. *la pauvre enfant*
 the poor child
 = ‘moneyless’ or ‘unfortunate’
- b. *L’enfant est pauvre.*
 the.child is poor
 = ‘moneyless’ only
- c. *la pauvreté de l’enfant*
 the poverty of the.child
- (31) a. *l’ancien premier ministre*
 the.former prime minister
- b. **Le premier ministre est ancien.*
 the prime minister is former
- c. **l’ancienneté du premier ministre*
 the.former_N of.the prime minister

Nominalizations of privative adjectives are also allowed. This is clearly what is expected, however, since they are PredPs and can be used predicatively as well:¹⁰

- (32) a. *une fausse fourrure*
 a fake fur
- b. *Cette fourrure est fausse.*
 this fur is fake
- c. *la fausseté de cette fourrure*
 the fakeness of this fur

As already suggested by example (26), above, the generalization holds independently of a particular nominalizing suffix; consider, for instance, the suffixes *-(a)tion*, *-isme* and *-eur*, respectively below:

¹⁰ A certain variation in the degree of acceptability of (32b) exists among French speakers. Note, however, that for speakers that judge the predicative use of a privative adjective ungrammatical, the impossibility to form (32b) correlates with the ungrammaticality of (32c) as well, as expected.

- (33) a. (i) *une peinture abstraite*
a painting abstract
‘an abstract painting’
(ii) *Cette peinture est abstraite*
this painting is abstract
(iii) *l’abstraction de cette peinture*
the.abstraction of this painting
- b. (i) *un peintre abstrait*
a painter abstract
‘an abstract painter’
(ii) **Ce peintre est abstrait.*
this painter is abstract
(iii) **l’abstraction de ce peintre*
the.abstraction of this painter
- (34) a. (i) *une réaction paternelle*
a reaction paternal
‘a paternal reaction’
(ii) *Sa réaction est paternelle.*
his reaction is paternal
(iii) *le paternalisme de sa réaction*
the paternalism of his reaction
- b. (i) *l’autorité paternelle*
the.authority paternal
‘paternal authority’
(ii) **Son autorité est paternelle.*
his authority is paternal [w/ the relevant reading]
(iii) **le paternalisme de son autorité*
the paternalism of his authority
- (35) a. (i) *un bain chaud*
a bath hot
‘a hot bath’
(ii) *Mon bain est chaud.*
my bath is hot
(iii) *la chaleur de mon bain*
the heat of my bath

- b. (i) *un chocolat chaud*
 a chocolate hot
 ‘a hot chocolate’
- (ii) **Mon chocolat est chaud.*
 my chocolate is hot [w/ the relevant reading]
- (iii) **la chaleur de mon chocolat*
 the heat of my chocolate

Finally, the ungrammaticality of the nominals compared to the grammaticality of the predicative phrases involving the related adjective, in (36), below, serves to emphasize that while all adjectives that function as a base for a nominalization must be a PredP, not all PredP necessarily have a nominal associated:

- (36) *ce roi est juste ; *la justesse de ce roi*
 this king is just the just._N of this king

While the noun *justesse*, which seems to be derived from *juste-* plus the nominal suffix *-esse*, does exist in French, it means something like ‘accuracy’, ‘rightness’ (cf., *la justesse de cette remarque* ‘the rightness of this remark’). It is an accidental lexical gap that no noun derived from the adjective *juste* meaning ‘just’ (and presumably related to the concept of justice) can be found in French.

4. Ambiguity in deadjectival nominalizations

The core issue that our theory of nominalization must explain is why only PredP adjectives can nominalize while simple APs cannot. This seems to suggest that nominal affixes cannot attach to APs directly, but need, for a reason to be explained, a PredP. Another issue adds to the first one. So far, I have discussed deadjectival nominals as if they belong to a unified class. This is, however, not the case, and at least two classes must be distinguished that I will name *state-nominals* (*S-nominals*) and *quality-nominals* (*Q-nominals*), respectively. The two interpretations are illustrated by the ambiguous noun *popularité* ‘popularity’, below, which can either describe a state of being popular (37a), or name the quality that one or something may possess (37b):

- (37) a. *La popularité de ses chansons m'impressionne.*
 the popularity of his songs me.impresses
 'The popularity of his songs impresses me.'
- b. *La popularité est une qualité qui lui fait défaut.*
 the popularity is a quality that to.him does default
 'Popularity is a quality that he is lacking.'

In a syntactic view of word formation, their differences must be captured structurally as well, in such a way that our analysis can only be satisfactory if it also allows us to explain the particularities of the two classes of nominalizations. I will, thus, first introduce the properties of the two classes of deadjectival nouns, and then turn to a proposal regarding their internal structure.

In her very influential work on deverbal nominalizations, Grimshaw (1990) diagnoses two types of deadjectival nominals, complex event nominals (e.g., *the (frequent) examination of the students*) and result nominals (e.g., *the examination/exam was on the table*), which have the properties in (38), respectively:

- (38) a. *Complex event nominals:*
- (i) Event reading
 - (ii) Obligatory arguments
 - (iii) Agent-oriented modifiers
 - (iv) Implicit argument control
 - (v) Compatible with aspectual modifiers like *in three hours*
 - (vi) Modifiers like *frequent, constant* only with singular
 - (vii) *by*-phrases are arguments
 - (viii) Must be singular
 - (ix) Must be definite
- b. *Result nominals:*
- (i) No event reading
 - (ii) No obligatory arguments
 - (iii) No agent oriented modifiers
 - (iv) No implicit argument control
 - (v) Not compatible with aspectual modifiers
 - (vi) Modifiers like *frequent, constant* with plural
 - (vii) *by*-phrases are not arguments
 - (viii) May be plural
 - (ix) May be indefinite

Where applicable, I shall use the same tests to show that the semantic divide between *S*-nominals and *Q*-nominals correlates, in surface at least, with similar types of differences. The first important difference relates to the obligatory realization of an overt external argument. *S*-nominals must always have an overt holder argument, in the form of a *de*-phrase in French. In (37a) above, *ses chansons* ‘his songs’ expresses the holder of the state described by the nominal *popularité*. *Q*-nominals, on the other hand, must appear without an overt external argument. The absence of a *de*-phrase in (37b) can only give rise to the quality reading.

Second, while *S*-nominals can be modified by aspectual adjectives expressing, for instance, frequency (e.g., *constant* ‘constant’), manner (e.g., *rapide* ‘fast’), or modality (e.g., *possible* ‘possible’), *Q*-nominals resist systematically such modifications. Consider (39), below. The presence of the adjective *constante* forces the realization of the external argument: when *constante* is present the *de*-phrase cannot be dropped (39a); and when no external argument is realized, *constante* cannot be inserted (39b). The same point is further illustrated with a transitive adjective in (40):¹¹

- (39) a. *La popularité constante *(de ses chansons) m'impressionne.*
 the popularity constant of his songs me.impresses
 b. *La popularité (*constante) est une qualité qui lui fait défaut.*
 the popularity constant is a quality that to.him does default
- (40) a. *la fierté constante *(de Jean) *(pour son travail)*
 the pride constant of John for his work
 ‘John’s constant pride for his work’
 b. *La fierté (*constante) l'aveugle.*
 the pride constant him.blinds
 ‘Pride blinds him.’

Third, while the obligatory *de*-phrase appearing with a *S*-nominal must be interpreted as a subject, *Q*-nominals may sometimes take an overt *de*-phrase,

¹¹ French, and Romance languages more generally, disallow a double *de*-phrase (subject/object). The object is, accordingly, generally introduced by a full preposition. This is apparently not the case in English, which allows, for some speakers at least, *of*-objects:

- (i) a. *la folie de Tom (*de) / pour les films*
 the crazyness of Tom of for the movies
 b. *Tom’s fondness of music*

but in that case it can only be interpreted either as an object (41) or as a possessive (i.e., as a quality attributed to an individual) (42):

(41) *l'ivresse de la vitesse*
 the.drunkeness of the speed
 'the intoxication by speed'

(42) *La fierté de Jean l'aveugle.*
 the pride of John him.blinds
 'John's pride blinds him.'

Modification by *constant(e)* of a *Q*-nominal accompanied by an object or a possessive *de*-phrase is significantly degraded, as expected:

- (43) a. *l'ivresse (*?constante) de la vitesse*
 the.drunkeness constant of the speed
 'the (constant) intoxication by speed'
 b. *La fierté (*?constante) de Jean l'aveugle.*
 the pride constant of John him.blinds
 'John's (constant) pride blinds him.'

Finally, while in French both a *S*-nominal and a *Q*-nominal must be constructed with an article, a further contrast appears in English where only *Q*-nominals can appear bare:

- (44) a. **(The) popularity of his songs impresses me.*
 b. *Popularity is a quality that he is lacking.*

Q-nominals name abstract concepts (e.g., *popularity*, *abstraction*, *redness*, etc.) and behave like mass rather than count terms, and, thus, cannot generally take the plural, neither in French nor English.¹²

¹² Some exceptions do exist in French but are rather limited; see for instance (i). Other, more common, cases of plural deadjectival *Q*-nominals are 'occurrence'-Ns, where the plural designates a plurality of happenings rather than a real plurality of objects (ii):

- (i) a. *Tu as une rougeur sur la joue.*
 you have a redness on the cheek
 'You have a red spot/mark on your cheek.'
 b. *Il y avait trois saletés sur la table.*
 there.was three dirty.N on the table
 'There was three pieces of dirt on the table.'

- (45) **Les popularités sont des qualités qui leur font défaut.*
 the.PL popularity.PL are a.PL quality.PL that to.them do default

That these nouns are mass explains straightforwardly the distribution of the articles in English, and in particular the fact noted earlier that they can appear as bare singulars (44b).

The distinctive properties of *S*-nominals and *Q*-nominals discussed here are summarized in (46):

- (46) a. *S*-nominals
- (i) State reading
 - (ii) Obligatory (overt) external argument
 - (iii) *constant*, *rapide*, etc. modification possible
 - (iv) *de*-phrase is an argument
 - (v) Must appear with an article in both French and English
- b. *Q*-nominals
- (i) Quality reading
 - (ii) No apparent external argument
 - (iii) *constant*, *rapide*, etc. modification not possible
 - (iv) *de*-phrase is not an argument
 - (v) Can be bare in English (but not in French)

The important correlation between event reading and obligatory argument structure that has long been made for deverbal nouns seems to hold for deadjectival ones as well. In view of the similar properties of *S*-nominals and complex event nominals (both have obligatory argument structure (or at least external argument in the case of deadjectival Ns), correlating with an eventuality reading, and both can take *constant* modification (with singulars)), it is important to emphasize that obligatory argument structure in derived nominals correlates not necessarily with a “process”/“event” reading,

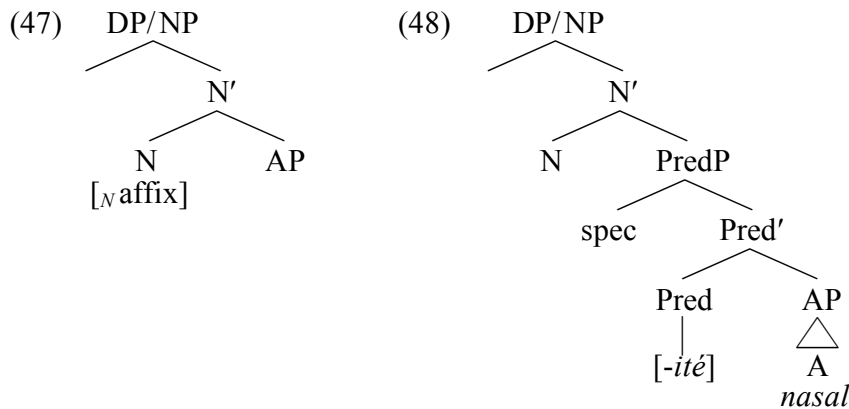
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- (ii) a. *Ils ont refusé ses largesses.*
 they have refused his largesses
 ‘They refused his largesses.’
- b. *Elle a commis quelques indiscretions par le passé.*
 she has committed few indiscretions by the past
 ‘She committed a few indiscretions in the past.’
- c. *Il était connu pour ses infidélités.*
 he was known for his infidelities
 ‘He was known for his infidelities.’

but with an “eventuality” interpretation more generally, including clear “states” (our *S*-nominals). Furthermore, an eventuality reading and obligatory argument structure do not necessarily map with an underlying verbal/aspectual structure for eventuality-nominals either. What it necessarily correlates with, however, is the presence of a predicative structure. Argument supporting nominalizations always involve a predicative basis, may it be verbal (*destruction, examination*) or adjectival (*redness, awareness*; in my terms a PredP).¹³

5. Internal structure of *S*-nominals and *Q*-nominals

5.1. A proposal

I propose that the reason nominal affixes can only attach to adjectives constructed with a Pred head is because such affixes are the realization of the head Pred itself. In other words, nominal affixes such as *ité, eur, (a)tion, esse*, and so on, are not hosted by a categorical head N directly (47), but project instead as a functional head, namely Pred, which takes a simple AP as its complement, as in (48):¹⁴



Deadjectival nominalizations are created when PredP is embedded under an NP, and the head Pred raises to N in order, I assume, to check its nominal-features. As commonly the case in Distributed Morphology, the morpho-

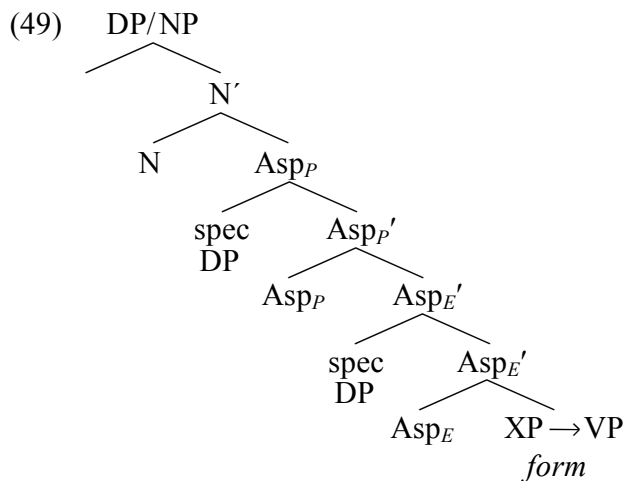
¹³ And even prepositional; cf. the English *aboutness*; no such examples exist in French however.

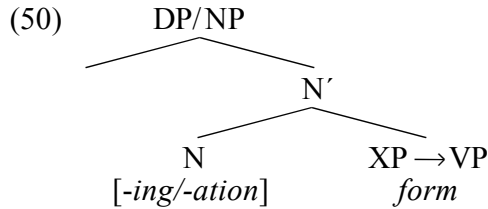
¹⁴ In the domain of deverbal nominals, Borer (2001, 2003) has claimed that both structures are in fact attested. More on this below.

logical realization of Pred is determined by its syntactic environment. Whereas it is generally a null head in the clausal domain (null head of the small clause; but see for instance Adger and Ramchand 2003), it is realized as a nominal morpheme in nominal context, i.e., when dominated by a DP/NP. In both cases, however, Pred is the same head.

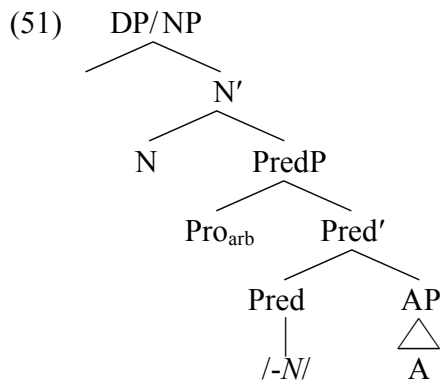
This proposal makes an immediate prediction regarding the argument structure of deadjectival nominals. Since all deadjectival nominals must involve a Pred head, and the role of Pred, as stated earlier, is to introduce an external argument, all deadjectival nominals must support an external argument. A priori, however, the prediction is not met for *Q*-nominals; cf., section 4, above.

In recent syntactic approaches to complex event nominals it has been proposed that argument structure and event interpretation are tightly related through the projection of functional nodes typically found in verbal clauses and linked to an event interpretation (cf., Alexiadou 2001; Borer 2001, 2003, in particular). All differences aside, in both types of accounts, it is the presence of “verbalizing” functional event structure (for Alexiadou 2001, VoiceP/AspectP; for Borer 2001, 2003, EventP/AspectPQ) in these nominals that is responsible for introducing the arguments and for the event reading. By opposition, in result nominals it is precisely the absence of such functional layers that yields to a non-eventive interpretation and the absence of arguments. Result nominals are simply derived from the presence of a nominal structure directly above a (category neutral) lexical item (for Alexiadou, a root LP which may have internal arguments; for Borer an encyclopedic item *EI*, projected within the *conceptual array* and which cannot in and of itself have arguments.). Compare (49) with (50) (as executed in Borer 2001):





The situation for deadjectival nominals is quite different. The contrast between *S*-nominals and *Q*-nominals does not reside in the absence *vs.* presence of an argument licensing head, but instead in how the external argument, by assumption always there, is realized. With *S*-nominals it is realized as an overt DP. With *Q*-nominals, however, the external argument is realized by a null argument. More concretely, I propose that this head is a null proform (presumably the same null element also found with predicative adjectives when they modify a noun, cf., (23) above) *pro*/PRO, which in the absence of coindexation with an antecedent (i.e., contrary to (23)), receives an arbitrary reference:



Note that the meaning of the null argument in (51) differs, however, from that of a regular PRO_{arb} in the sense that it is not restricted to animates/humans but can also be inanimate. While it is true that, when uttered out of the blue, there is a strong tendency to interpret the implicit argument of a *Q*-nominal as animate/human; cf., *la popularité* ‘popularity’, *la fragilité* ‘fragility’, *la pâleur* ‘paleness’, *la faiblesse* ‘weakness’, in actuality, all these nouns are easily attributable to inanimate subjects, along with, for instance, *la longueur* ‘length’, *la blancheur* ‘whiteness’, *la dangerosité* ‘dangerosity’, *la rapidité* ‘rapidity’, and so on. So, this null argument is more on a par with instances of null pronominal arguments of the type illustrated in (52):

- (52) *Un arrosage quotidien peut conduire les feuilles à [PRO jaunir a watering daily can lead the leaves to become yellow rapidement] rapidly*
 ‘Daily watering could lead the leaves to become yellow quickly.’

In other words, *Q*-nominals have an argument structure, it is just not realized overtly. What this means, concretely, is that *Q*-nominals are inherently ‘relational’ nouns. Like other relational nouns, e.g., kinship nouns (*sister*) and nouns with inherent part-whole relations (*the chair’s arm*), *Q*-nominals like *lenteur* ‘slowness’, *gentillesse* ‘kindness’, *abstraction* ‘abstraction’, *amplitude* ‘amplitude’, etc. necessarily involve a relation to an implicit argument. Here the relationship between structure and interpretation is a straightforward one as the implicit argument has a direct structural source, in the form of the null PRO sitting in spec-PredP.

Morphology seems to support the claim that both *S*-nominals and *Q*-nominals involve the same nominalizing head. Independently of their nominal suffix, all deadjectival nominals are ambiguous between a *S*-nominal and a *Q*-nominal. This ambiguity follows from our account without positing an ambiguity at the level of the nominalizing heads themselves.¹⁵

5.2. More on the ‘quality’ reading

More needs to be said about the ‘quality’ interpretation of *Q*-nominals. The issue is not trivial, as under our view Pred introduces a state, and its presence should therefore give rise to a state reading for all deadjectival nouns, including *Q*-nominals, cf., section 4. I suggest that the ‘quality’ interpretation is not the result of absence of eventuality altogether, but rather is obtained through the arbitrary reading of Pro and generic quantification using mechanisms mirroring exactly that found in the clausal domain. It has been noted that arbitrary reference in the clause is tied to genericity (Bhatt and Pancheva 2006; Moltmann 2006, for instance). The arbitrary interpretation is only available in generic environments. In episodic environments, the ‘uncontrolled’ PRO picks its interpretation from the local context:

¹⁵ The situation is rather different with deverbal nouns for which the form of the suffix is commonly assumed to play a role in determining whether they have an event reading, or not; such that *ø*-suffixation gives rise to a referential reading only, *-ing* to an event reading only and *-(a)tion* is ambiguous (Grimshaw 1990).

- (53) a. *It is great [PRO_{arb} to see the sun] again.*
 b. *This morning, it was difficult [PRO to see the sun] because the moving clouds kept obstructing the view from the window.*

Accordingly, and as pointed out by Bhatt and Pancheva (2006), the arbitrary nature of PRO_{arb} does not need to be stipulated. Instead, they propose that the ‘quantificational’ force comes from the presence of genericity. The implicit argument receives arbitrary reference when it is bound by a generic operator (GEN) higher in the clause. If there is no GEN, PRO picks its reference from the context.

Assuming that the arbitrary reference is always obtained under control by a GEN operator, even when it appears inside the DP domain, the PRO in *Q*-nominals must be bound by a GEN operator as well. The direct implication is that *Q*-nominals have a generic force. In other words, what I have called the ‘quality’ interpretation is in actuality a generic interpretation, making *Q*-nominals generic, property referring, terms.

Evidence that *Q*-nominals are generic terms come from the type of adjectival modification they are compatible with. With *Q*-nominals, the adjective-noun combination can only denote a sub-type of the denotation of N alone. Hence, for instance, *jealousie délirante* is possible because it is a type of jealousy; while the (b) examples are not:¹⁶

- (54) a. *La jalousie délirante est un syndrome psychiatrique commun.*
 the jealousy delirious is a syndrome psychiatric common
 ‘Delusional jealousy is a common psychiatric syndrome.’
 b. *La/L’(*longue/ *triste) jalousie (*intense/ *profonde) a ses*
 the long sad jealousy intense deep has its
symptômes.
 symptoms

¹⁶ It is possible that a certain cross-linguistic variation exists regarding what type of A-N combination counts as a type of N. Taking as a test for *Q*-nominals their ability to occur in predicative constructions of the type *N is a symptom of / is a flaw / is a quality that he is lacking*, it seems that while *jealousie intense*, for instance, is not a *Q*-nominal in French (ia), its English counterpart *intense jealousy* might behave like one (ib):

- (i) a. **La jalousie intense est un défaut.*
 the jealousy intense is a flaw
 b. Intense jealousy is a flaw.

Turning to the restriction on aspectual adjective modification discussed in section 4, it appears, thus, that it does not bear on the contrast between eventuality-related modifiers *vs.* not eventuality-related modifiers, but rather on whether or not the adjective is compatible with a generic interpretation for *Q*-nominals. In particular, while *Q*-nominals cannot be modified by ‘constant’, ‘possible’, ‘frequent’, and so on, they are nonetheless compatible with certain adverb-like adjectives, under the condition that they modify a type of N (55). In this case, all sorts of modifiers are possible, including manner and temporal ones:

- (55) a. *fragilité psychologique*
 fragility psychological
 ‘mental frailness’
- b. *industrialisme sauvage*
 industrialism wild
 ‘illegal industrialism’
- c. *jeunesse éternelle*
 youth eternal
 ‘eternal youth’

The restriction is, thus, independent of the presence of an underlying event/state.

5.3. Deadjectival *vs.* deverbal nominals

While *S*-nominals share obvious properties with complex event nominals, *Q*-nominals and result nominals are very different entities. *Q*-nominals are relational, property referring terms. They behave like mass rather than count. Result nominals are count terms and name concrete objects. For result nominals, the absence of argument structure, eventuality reading and the impossibility to be modified by ‘constant’ are the result of the absence of verbal/aspectual projections altogether (Alexiadou 2001; Borer 2001, 2003; cf. (50), above). For *Q*-nominals these properties result from genericity. Despite superficial similarities, their internal structures are very different and correlate with the noted semantic differences.

A legitimate question remains, however. Why is there no ‘result’ nominal formed with an adjective? In other words, why is it not possible to simply insert syntactically an AP as complement of a head N, as in (47), above, in light, specifically of the existence of (50)?

The ungrammaticality of APs in the complement position of a head N in (47), compared to the grammaticality of VPs in such context (cf., (50)) leads to the conclusion that VPs and APs are not only categorially different, but must be distinct semantic objects as well.

Assuming that only predicates can be embedded under a nominalizing structure, I suggest that the reason it is possible to insert a VP directly under a nominal projection, but not an AP, is because, whereas VPs are predicates, APs in and of themselves are not. An AP is property denoting, and becomes a predicate when it is introduced by a head Pred in a PredP construction, which, crucially, can appear under a nominalizing structure.

This result inside the structure of nominals mirrors exactly what has been noted for a long time in the clausal domain. There as well, APs cannot function directly as predicates. Whereas verbs can appear by themselves in a clause with a subject, adjectives (and for that matter, all other non-verbal predicates as well) require an additional element, i.e., most commonly a copula or a particle, in order to function as a direct predicate.

6. Conclusion

I have shown in this paper that the important correlation between eventuality reading and argument structure noted for deverbal nominals is preserved for deadjectival nominals as well. In this context, the existence of *S*-nominals is unproblematic, given the generalization that deadjectival nominals can only be formed from predicative adjectives, i.e. PredPs. The apparent conflict between the fact that all deadjectival nominals involve a predicative adjective (and therefore a Pred head) and the existence of *Q*-nominals, however, can be easily resolved by a single assumption, namely that *Q*-nominals involve a PRO argument. Other properties, as the apparent absence of eventuality reading, derive from mechanisms otherwise needed in the clausal domain (i.e., assignation of arbitrary reading with genericity). Finally, the impossibility to form true “result nominals” from adjectives is explained straightforwardly by a well-known difference between As and Vs, namely that only the latter can function directly as predicates. Here again, the internal syntax of complex nominals mirrors that of the clause.

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The name of the adjective

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On the basis of data from English, French, Hebrew and Spanish, this paper argues that (apparent) adjectives which function as nominals belong to two distinct classes. One small class consists of true nouns that are homophonous with adjectives but are not derived from them. The other one consists of true attributive adjectives which modify a null N, and whose range of interpretations cross-linguistically depends on the conditions on the licensing and identification of null Ns in a given structure and in a given language. We further claim that while the former group can appear in any context where nouns are typically licensed, the latter group is restricted to strong environments. This, we argue, is because referential *pro*, the assumed head of N-ellipsis structures, is always definite.

1. Introduction

This paper addresses the occurrence of (apparent) adjectives as nominals illustrated in (1). That the expressions in (1) are, indeed, nominals in some sense is beyond dispute, as indicated by the presence of articles as well as, at times, plural morphology. But are the lexical heads of the expressions in (1) indeed nouns? Could at least some of them be adjectives which modify a null or elided N?

- (1) a. (the) American(s); the rich (English)
b. le(s) jeune(s); un petit; mon rouge (French)
the(.PL) young(.PL) a.MSG small my.MSG red
c. (ha-)xolim; (ha-)zaqen; (ha-)kxulim (Modern Hebrew)
(DEF-)sick.MPL (DEF-)old.MSG (DEF-)blue.MPL¹

1. In the glosses, the following abbreviations are used:

DEF	definite	OM	object marker
DET	definite determiner	PASS	passive
F	feminine	PAST	past
FUT	future	PL	plural
M	masculine	SG	singular
NEG	negation	SPC	specific

- d. el ciego; los mojados; una roja (Spanish)
 DET.MSG blind.MSG; DET.MPL wet.MPL a.FSG red.FSG

An accompanying question concerns the interpretation of the expressions in (1), as well as the source of inter-language variation in the domain of (apparent) adjectives which function as nominals.

In what follows, we will show that adjectives which function as nominals do not constitute a uniform class, and that two cases need to be distinguished. On the basis of data from English, French, Spanish and Hebrew, we will argue that some apparent lexical ‘adjectives’ are indeed nouns (henceforth *Noms(A)*) which happen to be homophonous with adjectives. In the languages that we investigated, the set of *Noms(A)* is restricted. Interpretationally, they encode lexical meanings which may be related to, but which are clearly not directly derived from, the adjectival meaning. There are only scattered cases in which *Noms(A)* are arguably derived morphologically from adjectives, and none of them represent productive rules of word formation.

The larger, productive class of adjectival expressions which occur in nominal contexts, we argue, are true attributive adjectives. They are constructed in a nominal phrase, where they modify a null pronominal N, i.e., *pro* (and see also, among others, the works of Corblin 1990, 1995; Lobeck 1995; Sleeman 1996; Kester 1996). In turn, the range of interpretations that such a *pro* can receive, as well as cross-linguistic variation in its interpretation will turn out to depend on how it is identified and licensed in a given structure in a given language.

2. First attempt at differentiating *Noms(A)* and regular adjectives: English

In English, *Noms(A)* have clearly different properties from regular adjectives, and the nominal behavior of *Noms(A)* is easy to show – these are the only cases which may occur without a definite article or with a plural marking, the latter possible in English only for nouns and never for adjectives. They represent a very restricted class of lexical items. To the best of our ability to ascertain, there are only a handful of derivational suffixes in English which are systematically homophonous between N and A: forms suffixed with *-(ia)n* as in (2a), and forms suffixed with *-ist* as in (2b). The other large (although not productive) class consists of bare stems, as in (2c):²

2. Another case of an affix which, as far as we can tell, is perfectly ambiguous between a nominal and an adjectival reading is *-i*, as in (i):

(i) (An) Israeli; (an) Iraqi; (a) Saudi; (a) Pakistani

- (2) a. an American; two Russians; the Barbarians; three Franciscans;
a Freudian
b. a communist; three pragmatists; the Baptists; behaviorists
c. a Greek; three Czechs; the Arabs

There is little reason to believe that the forms in (2a–b) are actually derived from adjectives. Thus observe the existence of forms such as those in (3), which have no adjectival correlate:

- (3) a. (a) librarian(s); (a) physician(s); (a) comedian; (an) electrician;
*very historian; *a logician office
b. *very linguist; *specialist dishes; *botanist enough; *florist displays

As for the forms in (2c), note that they carry no categorial information, and as such, may very well be category-less roots which inherit their category from their syntactic environment, thereby obviating the need to derive the Nom(A) from an adjective (cf. Fu, Roeper & Borer 2001; Marantz 1997; Borer 2005).³ While a scattering of nouns with overt adjectival suffixes are attested, they do not even amount to a sub-regularity (cf. (4a–d)) and appear to be completely absent for some adjectival endings (cf. (4e–h)):⁴

- (4) a. *a frantic; *three hektics; *an Icelandic
(but note: a Catholic; a heretic; a fanatic, a psychic, a psychotic)
b. *a destructive; *three oppressives; *a compulsive; *an obsessive
(but note: a manic-depressive; also an adjective)

The affix is new (it is not included in most lists of English affixes), and seems restricted to names of relatively recent countries. Lacking further information about its source and distribution, we relegate it to a footnote.

3. It is possible that phonological information informs the insertion of bare roots in adjectival and nominal environments, respectively. Thus note that roots ending in sibilants do not make good Noms(A) (*French, Dutch; Welsh*). However, while this may explain the failure of sibilant final suffixes such as *-ish* or *-ese* to acquire a nominal function (see (4e–f)), such an explanation clearly does not generalize to the other cases in (4), making a pure phonological explanation of the failure of homophony in these cases unworkable.

4. Note the grammaticality of *three roomfuls, three spoonfuls* which we take to be compounds, rather than affixed forms, given their measurement function.

- c. *a reliant; *a consistent; *a persistent
(but note: a patient, an adolescent)
- d. *the reliables; *the verifiables; *an edible (but note: a variable)
- e. *the Japanesees; *a Portuguese
- f. *the Spanishes; *an English; *three Polishes
- g. *the beautifuls; *a harmful; *three gracelesses
- h. *a virtuous; *the industriouses; *a repetitious

It is clear that the English Noms(A) in (2) do not mean an entity with whatever property would be denoted by the homophonous adjectives, but rather, describe the affiliation of individuals. Thus *Greeks* cannot mean, in any conceivable context, objects which originate in Greece, or which have the property of being Greek (e.g., *Greek works of art*). While the relationship between the adjective and the Nom(A) here is not idiosyncratic, the Nom(A) meaning represents a restricted set of objects with the relevant property. Cases of straightforward idiosyncrasy are attested as well, at times with *pluralia tantum*:⁵

- (5) a. therapids (in rivers); my shorts (pieces of clothing); blinds (window coverings)
- b. a patient; a variable; edibles; a departed

These properties contrast with those of English expressions such as *the poor*. First, neither plural (definite or indefinite) nor the indefinite article are possible, as illustrated by (6a). In fact, the definite article *the* is obligatory (and note specifically that *these* and *those* are excluded). Second, the forms are oblivious to the existence of adjectival suffixation of all sorts, as illustrated by (6b). Finally, to the best of our ability to tell,

5. Frequently, it appears, the plural morpheme itself acts to convert adjectives or even bare roots to nouns, suggesting that it has a derivational, and not only an inflectional function. We set this matter aside here. We also set aside the question of why, *-able*, in particular, among adjectival suffixes, appears more amenable to this derivation (with thanks to an anonymous reviewer for pointing out this correlation):

- (i) a. *a movable; *a floatable; *a breakable; *an inflatable; *a valuable, *a rich
- b. BUT: movables; floatables; breakables; inflatables; valuables; riches

the construction is entirely productive and allows any adjective that can be plausibly predicated of humans:^{6,7}

6. Some comments are in order concerning the scope of the phenomenon that we are considering here. Specifically, we are excluding from consideration all cases which appear to be clearly elliptical, in referring back to an extremely recent or salient antecedent. For instance, after ordering tea in a restaurant, having the waiter ask ‘cold or hot?’ Or, presented with two shirts, being asked ‘the blue or the red?’ (We are informed by native speakers that in answering the latter, ‘the blue’ is not felicitous, and ‘the blue one’ is required.). Likewise, in Hebrew and French, we set aside cases of obviously elliptical use, as in Hebrew (i) (and see Glinert, 1989, pp. 110–111 on some other relevant cases of ellipsis), and French in (ii):

- (i) ha-tmarim ha-ele yeqarim, qne zolim
DEF-dates.m DEF-these expensive, buy cheap.MPL
 ‘These dates are expensive, buy cheap ones.’
- (ii) a. Mets le vase sur la table – non pas le cassé, l’autre.
 ‘Place the vase on the table – not the broken (one), the other (one).’
 b. De ces chiens, je préfère le tondu.
 ‘Among these dogs, I prefer the shorn (one).’

It is within this class, we believe, that one also finds elliptical uses following numerical and quantificational expressions such as those in (iii), pointed to us by an anonymous reviewer:

- (iii) a. Dan Brown has written many books but I only read one/two.
 b. I only read one book by Dan Brown but he has written several/three.

And likewise ordinals, superlatives, and expressions such as *following*, *previous*, *other*, *another*, and *same*, all requiring an extremely salient and recent antecedent, unlike the cases discussed, e.g., *the poor*, *the sick*, etc. For some discussion of the distribution of such elliptical cases see Halliday and Hasan (1976) as well as Ronat (1977).

Finally, we are excluding the use of ‘adjectives’ as labels for themselves, as in (iv):

- (iv) a. There are lots of blues in this paint store – I didn’t expect that.
 b. I hope I can do some good.

See, in particular, Section 4 for some relevant discussion.

7. A notable exception is the impossibility of using adjectives which have Nom(A) homophones in this group, to wit, the expressions in (i) can only have a Nom(A) interpretation, and cannot refer to, e.g., the American or Russian collective, on a par with, e.g., *the Welsh*, or *the English*:

- (i) The American; the Russian; the behaviorist

Short of appealing to a blocking effect of some kind, we have no account for this fact at this time.

- (6) a. The poor(*s); the sick(*s); *a pretty; *three sads, *these wise(es); *those lucky
 b. The enabled; the silken; the beautiful; the English; the manic; the oppressive; the ugly; the happy; etc.

Expressions such as those in (6) are most commonly interpreted as having a generic force. As is typically the case for generic interpretations, they can range over pluralities, most typically human groups or possibly kinds (i.e., all those who are sick, all who are poor, etc.). Alternatively, at least sometimes, they can be interpreted as referring to a mass kind, as in (7) (we are grateful to an anonymous reviewer for pointing this to us):⁸

- (7) a. (he is trying to achieve) the impossible
 b. the blue overcame the yellow;
 c. (he wanted to fully control) the unexpected

Given the observed tendency of Noms(A) to refer to humans (and see also below, in French and Hebrew), it may appear at first sight that Noms(A) and forms such as those in (6) do have something in common. The similarity, however, is a misleading one. We already observed that many Noms(A) do not, in fact, refer to humans, nor clearly are all cases of the type illustrated in (7). In what follows we will argue that the syntax of these expressions is very different. Specifically, while Noms(A) are true nouns, we will suggest that the lexical expressions in (6)–(7) are true adjectives which modify a *pro* as in (8). In the absence of licensing features for such a *pro* in English, it is interpreted as generic rather on a par with so-called arbitrary PRO, or, possibly, the covert benefactive in sentences such as (9) (and see Epstein 1984; Lebeaux 1984 and subsequent literature for the argument that the covert object of *easy* in (9) is a universal/generic *pro* which controls the infinitival null subject):⁹

- (8) *the A* [_N*pro*] (henceforth *Adj-pro* constructions)
 (9) It is easy *pro-universal* [PRO to leave]

Once other languages are considered, we will find that unpredictable meanings of Noms(A) persist, but in the presence of overt identifiers for *pro*, the generic restriction vanishes.

8. There are some exceptions to this generalization, to wit, ‘the Good, the Bad and the Ugly’ as a film title with a singular reference.

9. Cases of arbitrary *pro* or PRO in classical contexts with mass reference are difficult if not impossible to construct, as these are typically interpreted as human. If, however, Epstein (1984) is correct in arguing that these all reduce to a benefactive control, this may follow from constraints on null benefactives, and would thus fail to apply to *Adj-pro* contexts which are otherwise licensed.

3. French and Hebrew

At first glance, it appears dubious that French or Hebrew actually have a distinction between what we referred to above as Noms(A) and *Adj-pros* as in (8). We will argue, however, that both do exhibit the relevant distinction, allowing the forms in (10a) to be true nouns with the relevant interpretation as per glosses (our Noms(A)) (see also Marandin 1996; 1997 for French), but restricting the forms in (10b) to adjectives in French (see also Corblin 1990, 1995; Lobeck 1991, 1993, 1995 & Sleeman 1996 for a *pro* analysis of NP-ellipsis in French). Similarly, the forms in (11a) in Hebrew may be Noms(A) (with the relevant interpretation), but not so the forms in (11b) which may only be adjectives:^{10,11}

- (10) a. jeune; aveugle; mort; marié; sauvage
youth; blind man; dead man; groom; savage
- b. rondet; énérvé; joyeux; lent; excessif; faible
slightly fat; edgy joyful; slow; unmoderate; weak
- (11) a. ca'ir; šote; zaqen; xaḳam
youth; fool/village idiot; elder (lit. old) sage (lit. wise)
- b. nasuy; 'arok; yašar; raze
married; long; straight; thin

The plurality test that was relevant in English cannot be used in French or in Hebrew. As both plural nouns and adjectives modifying a plural noun must bear a morphologically identical plural agreement, both the putative Noms(A) and the adjectives in the putative *Adj-pros* (with a plural *pro*) would be marked as plural:

- (12) a. jeunes; aveugles; morts; mariés; sauvages
youth.PL blind.PL dead.PL groom.PL savage.PL
youths blind men dead men grooms savages
- b. rondetlets; énérvés; joyeux; lents; excessifs; faibles
fat.PL edgy.PL joyful.PL; slow.PL; unmoderate.PL weak.PL

10. In view of (10b), the class of adjectives that can appear with a determiner and without an overt noun in French is, we believe, less restricted than previously claimed in the literature (see, for instance, Sleeman 1993; Marandin 1997), and includes 'classifying' adjectives that are not clearly colors (*rouge* 'red'), ordering (*précédent* 'preceding', *suivant* 'next') or measuring (*grand* 'tall', *petit* 'small').

11. Note that while in French, *marié*, lit. 'married', is a Nom(A), meaning 'groom' or 'bride', depending on agreement, in Hebrew *nasuy*, lit. 'married', is an *Adj-pro*, meaning a 'married one'. Clearly, then, the selection of a particular lexical item as a Nom(A) or *Adj-pro* is not a universal one, nor would we expect it to be.

- (13) a. ce'ir.im; šot.im; zqen.im; xaḳam.im
 youth.PL fool.PL/village idiot.PL elder.PL (lit. olds) sage.PL (lit. wise(s))
 b. nesu'.im; 'aruk.im; yešar.im; raz.im
 broken.PL long.PL straight.PL thin.PL

Furthermore, the obligatoriness of a definite article and the impossibility of the indefinite article attested in English are absent. Thus in French, where the articles distinguish between definites and indefinites and between plurals and singulars all forms in (10) can take the full array of articles, and neither (14a) nor (14b) need to be interpreted as generic (although, of course, the plural definite forms may be thus interpreted):

- (14) a. Noms(A): un jeune; le jeune; les jeunes; des jeunes
 a youth; the youth; DET.PL youth.PL; indef.PL youth.PL;
 b. Adj-pro: un faible; le faible; les faibles; des faibles
 a weak; the weak; DET.PL weak.PL; indef.PL weak.PL

Hebrew does not have an indefinite article, and its definite article is not marked for number. When we consider the distribution of (bare) indefinites and definite expressions in the context of the paradigms in (11)–(13) we note that both are possible for Noms(A) and for *Adj-pros* alike, for both singular and plural forms. As in French, generic reading is not necessarily attested for the *Adj-pros* (although see below for more discussion of this point):¹²

- (15) a. ha-ca'ir; ha-ce'ir.im; ha-iver; ha-ivr.im
 DEF-youth DEF-youth.PL DEF-blind man DEF-blind man.PL
 b. ha-nasuy; ha-nesu'.im; ha-mupta; ha-mupta'.im
 DEF-married DEF-married.PL DEF-surprised DEF-surprised.PL

As there appears to be no obvious distinction between Noms(A) and *Adj-pros* in French and Hebrew, can we really maintain that, like in English, they represent two distinct classes? As it turns out, a closer scrutiny of the distribution of the forms in (10) and

12. Attributive adjectives in Hebrew agree with the modified nouns in gender, number and definiteness (cf. (i/ii)), allowing the article in (15), at least prima facie, to be associated both with a definite nominal and with a modifying adjective which agrees with a definite null N. We set this issue aside here for reasons of space.

- (i) ha-simla *(ha).yafa; ha-migdal *(ha-)gaboḥa; (singular)
 DEF-dress.F DEF-pretty.F; DEF-tower.M DET.tall.M
the pretty dress the tall tower
 (ii) ha-smal.ot *(ha-)yaf.ot; ha-migdal.im *(ha-)gboh.im (plural)
 DEF-dress.FPL DEF-pretty.FPL DEF-tower.MPL DEF-tall.MPL
the pretty dresses the tall towers

(11) in French and Hebrew respectively reveals some important differences. While our Noms(A), in both languages, have a distribution identical to that of common nouns, *Adj-pros* turn out to be restricted to strong environments.

We first consider French nominals with the indefinite plural *des* article, which, for common nouns, may receive either a weak (existential) or (under certain conditions) strong (partitive; presuppositional) reading (Milsark 1974; de Hoop 1992; Bosvelt-de Smet 1997). Thus (16), for instance, is ambiguous between a reading where the subject wants to buy any pair of shoes (the weak reading, asserting existence), and another reading where there are some specific shoes that the subject wants to buy (the strong reading):

- (16) Elle veut acheter des chaussures. (weak/strong readings)
 she wants buy *des* shoes
 ‘She wants to buy shoes.’

Non-existential readings indefinites may give rise to, and that are subsumed under the notion of strong reading that we will accept here following de Hoop (1992), include the referential reading (*A dog bit me yesterday*) (Fodor & Sag 1982), the partitive reading (*Few participants were French*) and the generic reading (*Boats float*). *Des*-indefinites in French can accordingly have a strong reading (Bosvelt-de Smet 1997):

- (17) a. Des amis (que je n’avais pas vu depuis 10 ans) m’ont
 indef.PL friends (that I NEG had not seen for 10 years) me have
 appelée hier. (referential)
 called yesterday
 ‘Some friends (that I had not seen for 10 years) called me yesterday.’
 b. Paul a réparé des bicyclettes (mais pas toutes). (partitive)
 Paul has repaired indef.PL bicycles (but not all)
 ‘Paul repaired some bicycles (but not all).’
 c. Seuls des spécialistes peuvent résoudre ce problème. (generic)
 only indef.PL specialists can resolve this issue
 ‘Only specialists can solve this issue.’

As it turns out, Noms(A), for instance *des jeunes*, are ambiguous in exactly the same way, and both a strong and a weak readings are available, as illustrated by (18a) (strong reading) and (18b) (weak reading, existential context):

- (18) a. Des jeunes que je ne connaissais pas m’ont aidé. (strong referential)
 des youths that I did not know helped me
 ‘Some youth that I did not know helped me out.’
 b. Il y a des jeunes qui fument dehors. (weak)
 there is des youths who smoke outside
 ‘There are youths who are smoking outside.’

This is not the case for our *Adj-pros*. Here, indefinites can only get a strong reading. They are felicitous in the strong presuppositional context in (19a) but are excluded in the weak, existential contexts in (19b):¹³

- (19) a. Des énérvés que je voyais manifester ont mis le feu
 des edgy.PL that I saw demonstrate have put fire to
 aux voitures (strong)
 the cars
 ‘Edgy individuals that I was watching demonstrate put the cars on fire.’
- b. *Il y a des énérvés dans la manifestation. (weak)
 there are des edgy.PL in the demonstration

Other relevant contexts exhibit precisely the same behavior. Noms(A) can occur in the scope of negation with the article *de*, an environment which licenses only weak readings, but not *Adj-pros*, as illustrated by (20):

- (20) a. Elle n’a pas rencontré de jeunes. (weak)
 she did not meet de youth.PL
 ‘She did not meet any youth.’
- b. *Ils n’ont pas interrogé d’énérvés. (weak)
 they did not interrogate de edgy.PL

When negation occurs with the article *des*, which, in opposition to *de*, licenses strong readings, both Noms(A) and *Adj-pros* are licit:

- (21) a. Elle n’a pas rencontré des jeunes. (strong reading)
 she did not meet des youth.PL
 ‘She did not meet some (of the) youths.’
- b. Ils n’ont pas interrogé des énérvés. (strong reading)
 they did not interrogate des edgy.PL
 ‘They did not interrogate (some of the) edgy ones.’

Interestingly, the use of true *Adj-pros* contrasts with what we may refer to as *Adj-en* forms, and which appear, at first sight, to involve bare ‘nominal’ adjectives (i.e., with no overt head N) and which are possible in weak contexts:

13. *Des*-adjectives are possible in existential constructions, as in (19b), with a taxonomic reading only, where they assert the existence of a type (e.g., an edgy type of individuals) rather than individuals themselves. Taxonomic readings of *des-NPs*, more generally, are usually favored by a weak context in French (Bosvelt-de Smet 1997). We have no explanation for this fact, and will leave it aside here.

- (22) a. Il y en a des énérvés à la manifestation.
 there is of.it des edgy.PL at the demonstration
 ‘There are edgy ones (out of a presupposed group of individuals) in the demonstration.’
- b. Ils n’en ont pas interrogé d’énérvés.
 they not of.it have interrogate de edgy.PL
 ‘They did not interrogate edgy ones. (out of a group)’

In actuality, the grammaticality of (22) only serves to emphasize the ungrammaticality of true *Adj-pros* in these contexts. In (22), the appearance of a ‘bare’ nominal adjective emerges as a result of *en*-cliticization, and there is little reason to assume the existence of a null pronominal N. Without offering a full analysis of *en*-cliticization, it is clear that what follows the adjective in these cases is either a phonologically null copy left by the movement of *en* itself, or alternatively, a partitive null PP or its copy, however licensed. Under any scenario, we do not expect the construction to display the properties of a definite N pronominal. The contrast, thus, nicely highlights the prohibition on weak contexts specifically for true null N heads, but not otherwise. Turning now to Hebrew, we find identical effects, with Noms(A) having the distribution of common nouns, and *Adj-pros* allowed exclusively in strong contexts.

As is true for numerous languages (including Spanish, Italian, the Slavic languages, some Germanic languages), Hebrew does not allow weak expressions in a pre-verbal position, thereby providing us with a structural test for the distribution of weak/strong readings. (23a) has a strong reading, and (23b) only has a generic interpretation (negative contexts for non-generic occurrences nicely highlight the strong partitive reading in these cases):

- (23) a. šloša sparim (lo) yikatbu ha-šana ‘al zihum ‘avir
 three books (not) write.PASS.FUT this.year about pollution air
 ‘Three predictable books (of a set) will (not) be written this year about air pollution.’ (e.g., they are contracted already)
- b. sparim ‘al zihum ‘avir nimkeru be-šana še-abra
 books about pollution air sold.PAST last year
 ‘Books about air-pollution used to sell last year.’

In turn, the subject in Hebrew may occur post-verbally freely if any constituent is fronted. In such post-verbal contexts, both weak and strong expressions are allowed, but bare plurals must receive an existential interpretation. (24a–b) thus contrast with (23a–b):

- (24) a. ha-šana (lo) yikatbu šloša sparim ‘al zihum ‘avir
 this.year (not) write.PASS.FUT three books about pollution air
 ‘Three (predictable) books will (not) be written this year about air-pollution.’
 (either synonymous with 23a) or weak, under straightforward numerical reading)

- b. be-šana še-abra nimkeru sparim 'al zihum 'avir
 last year sold.PAST books about pollution air
 'Last year some books about air-pollution were sold.'

Armed with these descriptions, consider the distribution of Noms(A) and *Adj-pros*:

(25) Noms(A), pre-verbal subject:

- a. šloša ce'irim (lo) nixnesu la-bar lištot
 three youths (not) entered to.DEF-bar to drink
 'Three(of the) youths (didn't) entered the bar to have a drink.'
 (strong reading only)
- b. ce'irim šatu ba-bar ha-ze be-šana še-'avera
 youths drank in.DEF-bar DEF-this last year
 'Young people drank in this bar last year.' (generic, i.e., it was
 the trendy place to drink for youngsters)

(26) Adj-pro, pre-verbal subject:

- a. šloša razim (lo) niknesu la-bar lištot
 three thin(s) (didn't) entered to.DEF-bar to drink
 'Three (of the) thin guys entered the bar to drink.' (strong reading only)
- b. razim šatu ba-bar ha-ze be-šana še-'abra
 thin(s) drank in.DEF-bar DET.this last year
 'Thin types drank in this bar last year.' (generic, i.e., it was the trendy
 place to drink for thin people)

(27) Noms(A), post-verbal subject:

- a. ha-boqer (lo) niknesu šloša ce'irim la.bar lištot
 this morning (not) entered three youths to-DET.pub to drink
 'This morning three youths (didn't) entered the bar to drink.'
 (strong and weak reading)
- b. ba-bar ha-ze šatu ce'irim be-šana še-'abra
 in.DEF-bar DET.this drank youths last year
 'Young people drank in this bar last year.' (weak reading only)

(28) Adj-pro, post-verbal subject:

- a. ha-boqer (lo) niknesu šloša razim la-bar lištot
 this morning (not) entered three thin(s) to.DEF-pub to drink
 'Three thin guys entered the bar to drink.' (strong reading only)
- b. *be-šana še-'abra šatu razim ba-bar ha-ze
 lastyear drank thin(s) in.DEF-bar DET.this

As expected, in the strong pre-verbal contexts, no difference is attested between Noms(A) and *Adj-pros*, and both exhibit a generic reading when plural and bare. However, post verbally, where bare plurals may only be weak indefinites, Noms(A) are possible, as in (27) but *Adj-pros* are blocked, as in (28).

Further evidence comes from the impossibility of *Adj-pro*, vs. the acceptability of *Nom(A)*, in existential contexts, both affirmative and negative (we note that bare singulars in Hebrew only have a weak interpretation):

- (29) a. yeš šloša ce'irim/*šloša razim ba-xeder
 exist three youths/*three thin (ones) in.DEF-room
 b. 'eyn ce'irim/*razim ba-xeder
 NEG.exist youths/*thin (ones) in.DEF-room
 c. yeš 'eyze ca'ir/*'eyze raze ba-xeder
 exist some youth/some thin (one) in.DEF-room

Finally, in an interesting illustration of the shared property here between French and Hebrew, we note the following:

- (30) a. 'ani ma'adifa razim
 I prefer thin(s)
 b. Je préfère les fins/*des fins
 I prefer DET thin(s)/INDEF.PLthin(s)
 'I prefer thin ones.'

What appears at first sight as a contrast between French and Hebrew is in actuality exactly what is expected, once we recall that objects of psych verbs require a generic reading of a plural object, and that generics in Hebrew are bare plurals, but definite plurals in French. Of course, *Adj-pros* in English, being generic and obligatorily accompanied by a definite article, have the distribution of strong nominals as well, thus patterning in this respect with French and Hebrew.

Once a clear distinction has been established between the syntactic distribution of *Noms(A)* and *Adj-pros*, we can return to the relevant examples and note that just as in English, it is *Noms(A)* which have an idiosyncratic or a restricted meaning. French *le petit* means “the child, the cub, the youngest”, and does not range freely over anything or anybody with the *petit* ‘small’ property.¹⁴ Similarly *la mariée* refers to “the bride”, and not to any married woman. Hebrew shows similar effects. *Xole*, literally ‘sick’ does not range over anybody who is sick, but means “patient”; *šote*, literally ‘stupid’ does not range over anybody who is stupid, but rather means the societal medieval “fool” or “village idiot”; *xaxam*, literally ‘wise’, means “a sage”, etc. Entirely idiosyncratic readings are available as well, as in French *proche* and Hebrew *karov*, literally ‘close’, but as a noun “a kin, a relative” or Hebrew *lebanim*, “linen”, literally ‘whites’, and French *la poudreuse* “powder snow”, literally ‘powdery’ or *lablanche* “heroin”, literally ‘white’. In contrast

14. *Petit*, ‘small’ just like *grand* ‘tall’, and other measuring adjectives, also has an *Adj-pro* use, in French, in which case it does range freely over anything and anybody small, as expected; see below.

adjectives in *Adj-pros* have varied meanings including both persons and objects, with the latter exemplified by cases such as French *les mouillés* ‘the wet(s)’, *les rouges* ‘the red(s)’, *un sale* ‘a dirty’, *une chère* ‘an expensive(.F)’, and Hebrew *ha-vrudim* ‘the pink(s)’, *ha-metukim* ‘the sweet ones’, *ha-yaveš* ‘the dry’, and similar cases.

4. More on *pro* in *Adj-pro* and otherwise

4.1 The meaning of *pro* in *Adj-pro*

We will assume that the meaning of *pro* in *Adj-pro* constructions corresponds to that of (potentially overt) definite pronouns, where by definite pronouns we mean specifically those pronouns which Heim & Kratzer (1998) analyze as E-type pronouns, and which Elbourne (2000) analyzes as (pronominal) definite articles. We will further follow Heim & Kratzer (1998) in assuming that such pronouns are fundamentally interpreted on a par with definite descriptions, and just like definite descriptions, pick a unique (set of) contextually salient individual(s). The bottom line, then, is that the interpretation of a phrase such as *les cassés* or *des cassés* (in which *cassés* is a regular attributive adjective) is fundamentally like that of definite descriptions, and hence strong.¹⁵ As such, we are not dealing with those pronominal cases which Heim & Kratzer (1998) identify as requiring an explicit antecedent, or with the cases enumerated in Footnote 5, which we believe to be cases of ellipsis. Note, in this context, that the overt indefinite English pronoun *one*, is not restricted to occur in strong environments, as illustrated by the grammaticality of (31).

- (31) a. I am looking for a competent one.
b. There isn't a tall one in sight.

It therefore emerges that the interpretation associated with the covert pronoun in *Adj-pro* constructions does not correspond to that of a putative covert indefinite pronoun with the properties of English *one*, and in fact, there is little reason to suppose that English, French or Hebrew have such an indefinite null pronoun. More strikingly, we will show in Section 5 that Spanish does not have such an indefinite null pronoun either, although Spanish, like English, has an overt indefinite pronoun (*uno*, as we shall

15. We note, interestingly, that at least in the context of *Adj-pro*, such a null pronoun may be either definite or specific, and that in the latter case it may be associated with an indefinite article as in *des cassés*. In turn, it is not clear that the distinction between specific (but indefinite) and definite is marked on pronouns altogether, whether overt or null, making the extension of the analysis of definite description to specific cases in the case of pronouns plausible. As we shall see directly, definite descriptions and specific readings (in pronominals as well as in lexical nominals) require a syntactic movement to D to be licensed.

argue), as well as a definite *pro* and an *Adj-pro* construction, which, as in Hebrew and French, must be strong.

As is clear from the structures we have been proposing, our *pro* does not correspond to the entire DP, but rather, to some head within it, most likely N. It would appear legitimate at this point, then, to raise a question concerning the typology of null pronominals, focusing, specifically, on the question whether there is any particular reason to expect N-*pro* to behave like a D-*pro*. As we will proceed to show shortly, however, the question may very well turn out to be a moot one. A more careful consideration of the properties of *Adj-pros* in Hebrew will suggest that all definite (null) pronominal interpretations involve a ‘lexical’ *pro* terminal, effectively an N-*pro*, and that so-called D-*pro* is simply a case of a DP projection with nothing but a *pro* in it.

Another important point will emerge from the discussion of some properties of Hebrew null definite pronominals: although they must be strong, that ‘strength’ needs to be licensed in a particular structural position, specifically in D, thereby requiring the movement of such *pro* from what we assume is its base position in N. Without pursuing in great detail any particular theoretical mechanism that will ensure such movement, we note that a simple checking system, or alternatively, a range assignment system as in Borer (2005) will ensure the obligatoriness of such movement. We return to this matter below.

4.2 Hebrew *Adj-pro* and ramifications

Hebrew, it appears, presents a *prima facie* problem for the assumption that *Adj-pro* is strong. The relevant cases involve a comparison between the distribution of Hebrew (overt) bare singular nominals and bare singular *Adj-pros*. Bare singular nouns in Hebrew may only receive a weak interpretation (cf. Borer, 2005). Because weak interpretation is not available in Hebrew in the pre-verbal position, such bare singular nominals are blocked in those contexts, as illustrated by the contrasts in (32)–(33):

- (32) a. *yeled (lo) yabo la.kaxat ‘et ha-matanot
 boy (not) come.FUT to.take OMDEF-present (OM=object marker)
- b. ‘eyze yeled (lo) yabo la.kaxat ‘et ha-matanot
 some boy (not) come.FUT to.take OMDEF-presents
 ‘A (specific) boy will (not) come to take up the presents’
 (strong reading only)
- (33) a. ha-boker (lo) yabo yeled la.kaxat ‘et ha-matanot
 this morning (not) come.FUT boy to.take OMDEF-presents
 ‘this morning, a boy will (not) come to take the presents’
 (weak reading only)
- b. ha-boker (lo) yabo ‘eyze yeled la.kaxat ‘et ha-matanot
 this morning (not) arrive.FUT some boy to.collect OMDEF-presents
 ‘This morning, a boy will (not) come to take the presents’ (strong, weak)

Suppose we assume, following the original intuitions of Diesing (1992), and Longobardi (1994), and adopting the specific execution in Borer (2005), that the reason for the obligatory weakness of Hebrew bare singulars is tied to the schematic structure in (34):¹⁶

$$(34) \quad [_{DP}e \ [_{\#P} \ sg \ [_{NP} N \]]]$$

In 34, e , heading D, is an open value, and must be assigned range, or effectively, be bound. As singulars may not typically be bound by a generic operator for reasons that we need not enter into in this paper, e in (34) may only be bound by an existential operator, and hence must be weak. On the other hand, the domain of the existential operator arguably excludes pre-verbal positions. It thus follows that bare singulars may not occur outside the domain of existential closure, i.e., they are excluded pre-verbally.

No such effects are expected, or attested, when the singular is accompanied by a number specification, by a quantifier, or, in a language that has indefinite articles, by a singular indefinite article. In such cases, the number specification itself, or alternatively, a quantifier or an article, may raise to D, thereby effectively binding it and licensing the structure. As expected, the emerging reading must be strong in the pre-verbal position, and the nominal, of course, is not a *bare* singular, as illustrated by, e.g., (32) above, and schematized in (35) with the Hebrew quantifier *‘eyze*, ‘some’, itself allowing both weak and strong readings in the appropriate context (cf. (33b)):

$$(35) \quad \begin{array}{ll} \text{a.} & [_{DP}e \quad [_{\#P} \text{‘eyze} \ sg \ [_{NP} N \]]] \quad \text{(weak, existentially closed } [_{D}e]) \\ \text{b.} & [_{DP} \text{‘eyze} \quad [_{\#P} \text{‘eyze} \ sg \ [_{NP} N \]]] \quad \text{(strong)} \end{array}$$

With this description in mind, let us return to the Hebrew *Adj-pro*. Crucially, what we find is that they exhibit a behavior identical to that of bare singular nominals in the pre-verbal position. If not accompanied by a number or a quantifier (recall that Hebrew does not have an indefinite article), they are ruled out in that position, as illustrated by (36). However, unlike bare singular nominals, a singular *Adj-pro* is barred in post-verbal positions as well, hence giving rise to a contrast between (36b) and (33b) above:

$$(36) \quad \begin{array}{ll} \text{a.} & *raza \quad (lo) \quad nixnesa \ la.bar \quad lištot \\ & \text{‘thin.f’} \quad (\text{not}) \quad \text{entered} \quad \text{to.DEF-bar} \quad \text{to drink} \\ \text{b.} & *ha-boker \quad nixnesa \ raza \ la-bar \quad ve-bikša \\ & \text{this morning} \quad \text{entered} \quad \text{‘thin.f’} \quad \text{to.DEF-bar} \quad \text{and-asked} \\ & le.hišhtameš \ ba-telefon \\ & \text{to.use} \quad \text{in.DEF-telephone} \end{array}$$

16. We are abstracting away here from aspects of nominal structure which are not directly relevant to the discussion. See Borer (2005) for a detailed discussion of the internal structure of nominal expressions.

We are now faced with a bit of a paradox. If, as we have asserted, *Adj-pro* is fundamentally like a definite pronoun, then we expect it to behave essentially like a definite description. But if so, there is no clear reason why it should be barred pre-verbally in Hebrew, or, for that matter, post-verbally where definite descriptions are otherwise licit. On the other hand, if a bare *Adj-pro* is, essentially, a species of bare singulars, it is not clear why it is not licensed in weak contexts, e.g., post-verbally with existential closure.

The paradox, however, can be resolved if we consider in greater detail the properties of Hebrew singulars, as well as those of Hebrew null pronouns. In Borer (2005) it is suggested that the unavailability of bare singulars with a strong reading is not a syntactic or a semantic fact, but rather, a morpho-phonological fact. Specifically, it is proposed that a strong reading *can* be associated with singulars in Hebrew, when the singular noun itself raises to D, thereby obliterating the unbound $[_D e]$. However, the resulting form does not spell out, strictly speaking, as a bare singular, but rather, as a singular with a specificity marking, as in (37). This specificity marking is associated with all strong occurrences of otherwise bare singulars, regardless of whether they are pre- or post-verbal, as (37b) illustrates:

- (37) a. *yalda* $*(.xat)$ *nixnesa* *la-kafe* *lištot*
 girl $*(.SPC.F)$ entered to.DEF-café to drink (SPC=specific)
- b. *ha-boker* *nixnesa* *yalda(.xat)* *la-kafe* *lištot*
 this morning entered girl(.SPC.F) to.DEF-café to drink

Concretely, and departing slightly from Borer (2005), suppose we assume that the derivation involves moving the entire NP, or possibly even a larger constituent, to [Spec, DP], thereby effectively binding $[_D e]$. The circled syntactic representation in (38a) is spelled out as a bare singular (in this case *yalda* ‘girl’), while the circled syntactic representation in (38b) is spelled out as a singular plus a feminine specificity making (in this case *yaldaxat*):

- (38) a. $[_{DP} e \text{ } [_{\#P} \text{ } \boxed{N.sg.f \text{ } [_{NP} N]}]]]$
 \downarrow
yalda
 ‘girl’(weak)
- b. $[_{DP} \text{ } \boxed{[_{\#P} N.sg[_{NP} N]}] e \text{ } [_{\#P} N.sg[_{NP} N]}]]]$
 \downarrow
yaldaxat
 ‘some (specific) girl’ (strong)

We now find out that singular ‘bare’ *Adj-pro* constructions *can* occur, both pre-verbally and post-verbally and with a strong reading, but only when accompanied with specificity marking, as the following cases illustrate:

- (39) a. raza.xat nixnesa la-kafe lištót
 thin.F.SPC.F entered to.DEF-café to drink
- b. ha-boker nixnesa raza.xat la-kafe lištót
 this morning entered thin.F.SPC.F to.DEF-café to drink

The structure for the *Adj-pro* in such cases is a straightforward one, involving the movement of the entire constituent containing the adjective and the null N to [Spec,DP], and the resulting spellout of the configuration with a specificity marker:

- (40) $[_{DP} [_{\#P} pro [A [_{NP} N]]] e] [_{\#P} pro [A [_{NP} N]]]$
 ↓
 razaxat
 ‘some (specific) thin one’ (strong)

It thus emerges that the asymmetry between singular nominals and singular *Adj-pro* is maintained, but only in post verbal positions. In such positions bare singular nominals, with a weak reading exclusively, are licit, i.e., they need not move to [Spec,DP]. An *Adj-pro*, on the other hand, is not. This follows, of course, if *Adj-pro* absolutely cannot receive a weak reading, and may only be licensed post-verbally if it moves to [Spec,DP], a movement that results in the emergence of an overt specificity marker.

An obvious explanation for the contrast between (36) and (39): the ungrammaticality of a ‘bare’ *Adj-pro* in both pre- and post-verbal position does not emerge from the fact that they are not licensed syntactically or semantically in those contexts. Rather, it follows from the fact that *pro*, in these constructions, must move to D to bind it, on a par with the movement of overt nominal in cases such as (38). However following this movement, it must spell out in conjunction with specificity marking and cannot occur bare. As such, it is the equivalent of structures such as those in (41), in which an overt nominal accompanied by an adjective moves to [Spec,DP], resulting in specificity marking:

- (41) a. $[_{DP} e [_{\#P} yalda.sg [raza [_{NP} yalda]]]]$
 girl.f thin.f
- b. $[_{DP} [_{\#P} yalda.sg [raza [_{NP} yalda]]] e] [_{\#P} yalda.sg [raza [_{NP} yalda]]]$
 ↓
 yalda razaxat

If this analysis is on the right track, note, it emerges that at least in Hebrew, *pro* must move to D to be licensed, and that once such movement takes place, it is subject to

whatever universal or language specific requirements may apply to such movement. In Hebrew, such movement is associated with particular spellout requirements, involving the specificity marker *xad/xat*. In turn, note, the specificity marker is a phonological clitic and it requires a phonological host. In (41b), it is the adjective, which is phonologically overt, thereby supporting the specificity clitic. On the other hand, under the assumption that *pro* by itself is not an appropriate host for such a spellout, it emerges that the movement of a bare *pro*, without an adjective, to D in Hebrew should be illicit.

This conclusion, we note, is not without ramifications. Specifically, it means that bare *pro* (with a definite pronominal interpretation) cannot be licensed in Hebrew. Such a conclusion, at first sight, appears to fly in the face of the existence, in Hebrew, of definite pro-drop, as in (42):

- (42) a. axalti gvina axalnu gvina
 ate.1SG cheese ate.1PL cheese
 ‘I ate cheese’ ‘we ate cheese’
- b. axalta gvina axaltem gvina/ axalten gvina
 ate.2MSG cheese ate.2MPL cheese/ ate.2FPL cheese
 ‘you (m.sg) ate cheese’ ‘you (mpl) ate cheese’

Viewed differently, this proposal may, in fact, turn out to correlate very well with otherwise established facts of Hebrew pro-drop. As is well known, Hebrew does not allow pro-drop in 3rd person, giving rise to the ungrammaticality of the forms in (43), when contrasted with those in (42):

- (43) a. *axal gvina
 ate.3MSG cheese
 (‘he ate cheese’)
- b. *axla gvina
 ate.3FSG cheese
 (‘she ate cheese’)
- c. *axlu gvina
 ate.3PL cheese
 (‘they ate cheese’)

It now turns out that the impossibility of pro-drop in Hebrew 3rd person is in fact explained directly by the assumption that, on a par with bare nouns, 3rd person pronouns must move to D, and thus fall under the specificity spellout requirement. In turn, 1st and 2nd null pronouns appear to be excused from such a restriction. Suppose now that we assume that 1st and 2nd person agreement, realized in these cases on the verb, and transmitted, or checked, by assumption, onto *pro*, are themselves a variant of specificity marking, an assumption which is plausible given the highly specific nature of 1st and 2nd person discourse participants (and

see Harley & Ritter, 2002 for some relevant discussion). If this is the case, than such marking would be expected to occur in complementary distribution with the specificity markers *xat/xad*, and more concretely, for Hebrew, it gives rise to the licensing of 1st and 2nd *pro* without overt specificity marking, a possibility that is excluded for 3rd person null pronouns.¹⁷ Note now that as adjectives never agree in person, the default person for *pro* in *Adj-pro* constructions must be 3rd. In that context, however, but not in the context of a bare 3rd person *pro*, the specificity marker may spell out on the adjective, which is of course phonologically overt, thereby allowing 3rd person *pro* to occur in contexts where it could not survive without modification.

Note now that while our analysis of *Adj-pro* crucially postulates *pro* as an N head, its extension gives rise to the strong possibility that *pro*, universally, is always an N head. Specifically, note that we must assume that in the absence of an article, in Hebrew, *pro* must move to D to be licensed. Suppose we extend this analysis to other languages as well – in the absence of an article, *pro* must move to D. If true, so-called D-*pro* have, in fact the structure in (44):

$$(44) \quad [_{\text{D}} [_{\#} \text{pro} [_{\text{N}} \text{pro}]]] \in \{_{\#} \text{pro} - [_{\text{N}} \text{pro}]\}$$

The difference between, e.g., Italian or Spanish on the one hand and Hebrew on the other hand now does not revolve around the existence of the structure in (44), but rather, around its spellout properties – in Hebrew, a special spellout requirement is in place, effectively blocking (44) in the absence of either 1st or 2nd verbal inflection, or binding (cf. fn.18). No such extra restriction is present in Italian and Spanish, giving rise to free *pro*-drop.¹⁸

17. The account of selective *pro* drop in Hebrew given in Shlonsky (1997) follows, in some respects, a similar line to the reasoning given here. Like us, Shlonsky assumes that *pro* must be in D, and that the ungrammaticality of 3rd person null pronouns stems from their inability to support morphological affixation. The affixation under consideration, however, is person marking, not specificity marking.

18. We note that 3rd person *pro* in Hebrew, although not licensed as a definite pronoun, is licensed as a bound variable in context such as those in (i):

- (i) a. Rina ma'amina še-tacliax
 Rina believes that-succeed.FUT3F
 'Rina_i believes that she_i will succeed'
- b. kol gever ma'amin še-yihiye populari 'im yirze
 every man believes that-be.FUT3M popular if thin. FUT3M
 'Every man_i believes that he_i would be popular if he_i becomes thin'
- c. 'af 'iša lo ma'amina še-tacliax
 no woman no believe that-succeed.FUT3F
 'no womani believes that shei will succeed'

We end this section with an interesting puzzle – in both Hebrew and French, by no means related languages, *Adj-pro* may not occur with a universal distributive quantifier (44b), (45b) (although they are licensed with a non-distributive universal (44a), (45a) or with the negation of a distributive universal (44c), (45c)). While a full understanding of this fact awaits further investigation, we note that typologically, it lends support to our claim that the restrictions on *Adj-pro* constructions are general and their occurrences in unrelated languages trace their sources to similar grammatical factors:

- (45) a. kol ha-nesu'ot 'azvu
all DEF-married.f(s) left.PL
'All the married women left.'
- b. *kol nasu'a 'azva
every married.F left.SG
'*Every married woman left.'
- c. 'af nesu'a lo 'azva
no married.F no left.SG
'no married woman left.'
- (46) a. Tous les faibles ont été secourus.
all the slow.PL have been rescued
'All the weak ones have been rescued.'
- b. *Chaque faible a été secouru.
every weak has been rescued
'*Every slow one has been rescued.'
- c. Aucun des faibles n'a été secouru.
none of-the weak.PL NEG-has been rescued
'No weak one has been rescued'.

5. Spanish *pro*, Spanish *uno*

The existence of *Adj-pro* forms with a large range of interpretations (thus contrasting with English) is dependent on two factors. *Pro* must be licensed in the language; and

If we follow, however, the logic of the structures here, it emerges that in exactly these cases movement to D is not required, and [_D e] may thus be bound. The fact that *pro* IS licit in bound cases without movement to D raises the possibility that the properties of bound *pro* and bound pronouns in general are distinct from those of definite *pro* and definite pronouns in general (and see, in this context, Kratzer 2006). Note that we predict that *Adj-pro* constructions cannot have a bound variable reading – they involve, by definition, a definite pronoun which must move to D, thereby binding [_D e] itself and barring its binding by an operator or an antecedent external to the DP.

pro must be identifiable through gender and number distinctions on the article – if the article can express such distinctions – and/or through the modifying adjectives (Bernstein 1993, among others).

We are making the prediction that a language like Spanish, which licenses *pro* in both subject and object positions, and which has agreement features on both articles and modifying adjectives, will pattern with French/Hebrew in allowing *Adj-pro* with a variety of interpretations. As expected, Spanish does allow adjectives without an overt noun in numerous contexts, including some that seem as fair candidates for *Adj-pro* (e.g., *importante* ‘important’, *rojo* ‘red’, *alto* ‘tall’, *mojado* ‘wet’, etc.) and others that appear to be Noms(A) (e.g., *viejo* ‘old man/elderly’, *ciego* ‘blind man’, *católico* ‘catholic’, etc.).

To show that the constructions are indeed distinct, we need to show that some, but not all of these ‘bare’ adjectives, are systematically barred in weak contexts. By assumption, those that are thus restricted are *Adj-pro* constructions, and those that are not restricted in this fashion are Noms(A). As it turns out, the distinction does exist, marking the forms in (47a) as *Adj-pro* constructions, and the forms in (47b) as Noms(A).¹⁹ We note that in terms of their meaning, the Noms(A) in (47b) are, as they were in French/Hebrew, restricted and cannot range over all objects with the relevant restriction:

- (47) a. *No encontró importantes en la reunión.
 NEG met important.PL at the meeting
- b. No encontró ciegos en la reunión.
 NEG met blind.PL at the meeting
 ‘He did not meet blind men at the meeting.’

As expected, the ungrammaticality of the *Adj-pro* forms in (47a) contrasts with their grammaticality in contexts that allow a strong interpretation, as for instance with the article *unos* in the object position:

- (48) No encontró unos importantes en la reunión.
 NEG met ones important at the meeting
 ‘He did not meet (specific) important ones at the meeting.’

In view of the generalizations we reached on French and Hebrew, the fact that Spanish licenses *Adj-pro* forms is not surprising (see also Bosque 1989; Contreras 1989; Leonetti 1999; Cabredo Hofherr 2005; among others). As in French, *Adj-pro* in Spanish is licensed by both definite and indefinite articles (cf. (49)). The identification of *pro* through

19. Native speakers inform us that (47a) is possible when the context provides a (referential) discourse antecedent. As it is the case in English, Hebrew and French, *Adj-pros* are licensed in elliptical contexts in Spanish, presumably through an antecedent associated with D (hence as a DP and not an NP) and see footnote 5 for some more discussion.

the gender and number information both on the article and the adjective allows *N-pro* to receive a variety of interpretations analogous to French and Hebrew (human/non-human, count/mass, feminine/masculine, etc.):

- (49) los mojados; la mojada; una mojada; etc.
 DET.MPL wet.MPL DET.FSG wet.FSG a.FSG wet.FSG

There is, however, one feature of Spanish which distinguishes it from French, otherwise minimally different. For *Adj-pro* forms, we find that the singular indefinite masculine article *un* is impossible in Spanish. This contrasts clearly with Noms(A), where the article *un* is entirely licit, as illustrated by (50):

- (50) a. *un importante (*Adj-pro*)
 an important
 b. un viejo (*Nom(A)*)
 an elder

Instead, *Adj-pro* forms must be constructed with *uno*, as in (51):

- (51) uno importante; uno mojado; uno vacío; uno recto; uno lleno
 one important one wet one empty one straight one full

The ungrammaticality of the article *un* in *Adj-pro* constructions, although strongly supporting the distinction we postulate here between Noms(A), as in (50b), and *Adj-pro* constructions as in (50a), is nevertheless quite puzzling, especially when we consider the fact that if *pro* is replaced by an overt noun the article *un* is obligatory whenever an adjective occurs (as well as in the context of unmodified nouns in general, see below):

- (52) a. un hombre importante
 a man important
 b. *uno hombre importante
 one man important

To answer this puzzle, we suggest that the masculine singular indefinite article *un* in Spanish is unable to license *pro* because it is underspecified for gender and possibly also number features. In the absence of sufficient information on the article, the content of *pro* cannot be recovered.²⁰ *Un* is rather akin to the third person inflection in Hebrew,

20. Spanish does allow bare plural *Adj-pros* in clearly elliptical contexts as in (i) (as pointed out to us by a reviewer; examples from Bosque 1989):

- (i) a. Tengo que utilizar sacapuntas viejos o llegaron nuevos?
 ‘Do I have to use old pencil-sharpeners, or did new ones arrive?’
 b. Compré rojas porque blancas no quedaban.
 ‘I bought red ones because there weren’t any white ones left.’

which, as we have seen earlier, unlike 1st and 2nd inflection, is not specific and hence cannot license *pro*. Although unambiguous in both cases, it is not morphologically specified for person, a characteristic which has been argued to correlate with failure to license. This situation in Spanish contrasts with that of Hebrew, however, which never marks agreement on articles (and which, at any rate, lacks an indefinite article) and where, possibly in consequence, adjectival morphology is sufficient to license *pro*.

In contrast, the feminine indefinite article is identical with the feminine numeral form, and is overtly marked for gender. As a result, it can license *pro* (53a). Similarly, the plural definite articles are overtly marked for gender and number, and can license *pro* (53b):

- (53) a. una importante; una mojada; una vacía;
 a/one.F important a/one.F wet a/one.F empty
- b. los/las importantes; los/las mojados(/as);
 DET.MPL/FPL important.PL; DET.MPL/FPL wet.MPL/FPL
- los/las vacíos(/as)
 det.mpl/fpl empty.MPL/FPL

What, now, is the role of *uno*, and why does it occur exactly in the context of an (apparently) bare adjective? Recall that it is ungrammatical in the context of regular nouns which are modified by adjectives (as in (51b)). It is also ungrammatical in the context of clear nouns in general (as illustrated by (54) and in the case of clear Noms(A), as in (54)).²¹ It is thus hard to argue that *uno* is simply a more fully specified version of the article *un*:

- (54) *uno médico; *uno estudiante; *uno coche; etc.
 one doctor one student one car

- (55) *uno viejo; *uno ciego; etc.
 one elder one blindman

We suggest, instead, that the properties of *uno* have a straightforward account if we assume that the proform modified by the adjective and heading the nominal construction in (51), is not a null N-*pro*, but rather, the overt proform *uno* itself, behaving very much like English *one* in *a tall one* or *a red one*. Importantly, and just like its counterpart English *one*, *uno* is not a *pro*, and thus does not need to be licensed. *Uno*-headed expressions

This is a language specific fact for which we have no explanation, and which requires studying conditions on ellipsis which are different (see fn. 5).

21. The phrases in (55) are, as expected, grammatical as *uno-Adj* constructions only, i.e., when *viejo* and *ciego* are not nominals but true adjectives, respectively 'old' and 'blind', in cases similar to (51) above.

are felicitous in weak contexts and with weak readings thereby contrasting with true *Adj-pro*. They can appear in existential sentences, as well as under the scope of negation, two contexts known to allow only weak expressions. The result is that unlike *Adj-pros*, *uno-Adj* forms (56a), (57a) do not contrast with Noms(A) (56b), (57b) in weak contexts:

- (56) a. Hay uno importante en mi clase de español.
‘There is an important one in my Spanish class.’
b. Hay un ciego en mi clase de español.
‘There is a blind man in my Spanish class.’
- (57) a. El hombre no habló con uno importante.
‘The man did not talk to an important one.’
b. El hombre no habló con un ciego.
‘The man did not talk to a blind man.’

Suppose, now we assume that *uno*, being a proform already marked for number, must move from its original position, N, to Num⁰ to be licensed (through checking or range assignment). As a result, *uno* can never occur to the right of a modifying adjective (57). Thus an adjective like *importante*, for instance, can appear pre-nominally when modifying an overt noun (58), but not in the context of *uno*:

- (58) *importante uno; *feliz uno; *largo uno; *estupendo uno
an important one a happy one a long one a wonderful one
- (59) a. un problema de salud importante
a problem of health important
b. un importante problema de salud
an important problem of health
‘an important health problem’

Support for the movement of *uno* comes from its failure to occur with the indefinite article, thereby blocking the insertion of the article *un*, by assumption base-generated in Num⁰ (see Roy 2006, for discussion):

- (60) (*un) uno importante; (*un) uno largo; (*un) uno estupendo
a one important a one long a one wonderful

Nor can *uno* occur with any other article or cardinal, as illustrated in (61):

- (61) *los unos importantes; *pocos unos importantes; *tres
DET.PL ones important(s) few ones important(s) three
unos importantes
ones important(s)

As such, it contrasts with English pronominal *one*, which may occur both with indefinite and definite articles, and which, by assumption, does not move to Num⁰.²²

- (62) a. a tall one; an important one; few important ones; many wonderful ones.
b. the tall one; the important one; that wonderful one; etc.

More importantly, the behavior of *uno-Adj* contrasts with that of the genuine *Adj-pro* cases in (63), (and see also (53) above), where both articles and cardinals are possible:

- (63) los importantes; tres importantes
DET.PL important.PL; three important.PL

In (63) and (53), the highest functional head (presumably D) is filled by the relevant determiners (*los, las, una, tres*). We suggest that these are appropriate licensors for the null form *pro* (see discussion above). As noted, licensing, both in Spanish and in Hebrew, requires overt morphology, lacking in singular masculine forms in Spanish, hence the ungrammaticality of *un Adj-pro* constructions.²³ On the other hand *uno-Adj* constructions do not include a *pro* altogether. Rather, they contain an overt pronominal, *uno*, generated in N and moving to Num⁰. The underspecified nature of the indefinite masculine singular article *un* is thus irrelevant in the licensing of *uno-Adj* constructions. The movement of *uno* to Num⁰ not only makes the occurrence of such an article unnecessary, it also makes it impossible.²⁴

Consider now the properties of constructions which include feminine and plural instantiations of *uno*: *una, unos, and unas*. In these cases, the presumed overt indefinite pronoun is homophonous with the indefinite article which *does* carry overt inflection. We excluded *Adj-pro* constructions in Spanish for singular masculine in the absence of

22. While the difference between Spanish and English follows directly from our assumption that English *one* does not move, we have no explanation at the present time for this asymmetry, short of noting that overt movement in English is highly restricted both in verbal and nominal contexts.

23. But we do note that gender marking on third person verbs in Hebrew is specified, but not sufficient to license *pro* in the subject position. We leave this matter aside, pending a better understanding of the relations between feature specification and null pronominal licensing in general.

24. We make the prediction that *tres importantes* can only be strong, and must, thus, be excluded from weak contexts. Although such *Adj-pros* are accepted in existential constructions (*Hay tres rojos sobre la mesa* 'there are three red ones on the table'), native speakers report that they only have a list reading (e.g., talking about pens, three red ones are sitting on the table, two blue ones on the floor, and a yellow one near the window). If this is correct, it confirms our claim that *Adj-pros* are always strong. Note, in this respect, that Spanish contrasts with French, for instance, which never allows *trois rouges* in weak contexts, even with a pair list reading. We leave a more detailed investigation of these cases to future research.

an appropriate article, but note now that such an exclusion does not extend to feminine and plural indefinite articles. As a result, we expect a parallel derivation for expressions which include an inflected article and an adjective. On one derivation, they will parallel that of singular masculine *uno*, as in (64). On that derivation, they may have a weak reading. On the other derivation, they will follow the analysis for *Adj-pro* in French, with the article licensing *pro*, and will be restricted to strong contexts, as in (65) (a prediction, note, that cannot be checked due to the existence of a ‘weak’ derivation):

- (64) a. [uno [Adj [~~uno~~]]] (indefinite pronominal)
 b. [una [Adj [~~una~~]]] (indefinite pronominal)
 c. [unos [Adj [~~unos~~]]] (indefinite pronominal)
 d. [unas [Adj [~~unas~~]]] (indefinite pronominal)
- (65) a. *[un [Adj [*pro*]]]
 b. [una [Adj [*pro*]]] (article licensing a definite *pro*)
 c. [unos [Adj [*pro*]]] (article licensing a definite *pro*)
 d. [unas [Adj [*pro*]]] (article licensing a definite *pro*)

To conclude, the identification of *pro* in Spanish is subject to the same principles as in French, Hebrew and English. Spanish licenses “bare adjectival” nominals with a large variety of interpretations because it has sufficient information on both the article and the adjective. All articles except *un* license *pro* successfully. The particular behavior of *un*, and the appearance of *un/uno* alternation in the case of bare adjectives, relates, we suggested, to the fact that it is underspecified for gender and number. It therefore follows that in Spanish, true *Adj-pro* can never be indefinite singular masculine. Quite independently, Spanish has an indefinite *overt* form, occurring in both genders, and as both singular and plural. Although, the surface appearance of that form coincides with that of *Adj-pro*, a closer investigation revealed them to be different constructions. As in English, French and Hebrew, the null pronoun found in *Adj-pro* forms in Spanish (e.g., in (65)) is a null definite *pro*, which must be licensed through an overt and sufficiently specific D. The other cases are *Adj-pro*forms which do not involve a null proform, but rather, an indefinite overt pronoun which does not need a licenser; and as a result need not be strong either. As *Adj-pro* must occur in strong environments, it can never surface as a bare plural in Spanish (and see fn. 20 for some comments). When we combine these factors with the fact that the proform *uno* (in contrast with the numeral) may occur in weak contexts, it emerges that the contrast between *Adj-pro* and Nom(A) in Spanish can only be illustrated in indefinite, weak plural contexts, as in (47).

6. Conclusion

We have shown in this paper that nominal expressions which are homophonous with adjectives belong to two distinct classes. One class (our Nom(A)) consists of true

nouns that happen to be homophonous with adjectives, but whose meaning, when compared to that of the corresponding adjectives, is either considerably restricted or idiosyncratic. Across the languages that we examined, the set of Noms(A) is relatively small and restricted. The large and productive class of nominal expressions which are homophonous with adjectives, we suggest, truly are attribute adjectives which modify a pronominal null N (our *Adj-pro*). In contrast with Nom(A), whose distribution is identical to that of a regular noun, *Adj-pro* is restricted to strong contexts. We suggested that while the *pro* in *Adj-pro* is, like non-bound pronouns, definite, it nevertheless is subject to licensing constraints, which amount to its occurrence only being licit in the context of an overt D. The result is that it is barred in contexts which do not allow a strong reading. We further suggested that all definite pronouns may be N-pronouns, and that so-called D-pronouns are derived through the movement of a *pro* form (overt or covert) to D, and that it may very well turn out that across the board, indefinite pronouns are never covert.

Finally, as is usual, we attribute cross-linguistic differences between *Adj-pro* forms to the overt vs. covert nature of inflectional and functional material, leading to a different application of licensing conditions on null pronominals in various languages. Specifically, we note that the existence of overt articles, adjective agreement and verbal agreement in some languages or paradigms vs. its absence in others turns out to account for the distinct (but at times overlapping) distribution of *pro* in English, Hebrew, French and Spanish.

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Body Part Nouns in Expressions of Location in French

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Abstract

In relation to inanimates, nouns that normally denote body parts when constructed in relation to an animate whole (*pied* ‘foot’, *tête* ‘head’, etc.) lose their literal meaning in French and acquire instead a spatial interpretation. This paper argues that *spatial* part Ns in French divide into two coherent groups with distinct properties: *fixed spatial part* terms, which denote concrete, perceptible objects and whose interpretation is completely predictable on the basis of the shape and position of the whole and *relative spatial part* terms, which denote a *location* projected from the whole. A detailed study of the two classes of expressions shows that, while the former are true nouns, the latter are in fact Axial Parts, a category motivated cross-linguistically in the semantic decomposition of prepositions.

1. Introduction

This paper argues that body part nouns in French (*pied* ‘foot’, *tête* ‘head’, *dos* ‘back’, *ventre* ‘belly’, etc.) can refer, productively, not only to partitions of the body, human or animal,¹ but also, as we will see, to spatial locations.

Body part nouns refer effectively to parts of the body when they are constructed in relation to a human or animal whole, i.e. when they are constructed with an animate complement:

- (1) le pied de Jean; le bras d’un enfant; le nez de l’homme;
the foot of John the arm of.a child the nose of the.man
- la tête du chien; le dos d’un poisson; le flanc du cheval
the head of.the dog the back of.a fish the flank of.the horse

When constructed with inanimate complements, however, body part nouns lose their literal meaning and acquire instead a spatial interpretation. These are the cases that will interest us here. In their spatial use, as I will argue in what follows, they can potentially refer to two (distinct) types of spatial

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¹Parts of an animal body often have, in French, a different name than the equivalent human body parts (*gueule* for ‘mouth’ instead of *bouche*, *patte* for ‘leg’ instead of *jambe*, etc.). Except for *flanc* ‘flank’ and *queue* ‘tail’, no other animal body part nouns are used as expressions of spatial location in French.

locations. First, by analogy with the human body, they can name parts of an object that can be assimilated to the part the same noun would designate in relation to an animate object: e.g. *le pied de la lampe* (lit. the foot of the lamp) refers to the bottom part of the lamp which it stands on (i.e. its base). The use of body part nouns as nouns for spatial parts is well documented for French (see, for instance, Vandeloise 1986, Aunargue 1991, Borillo 1991). Further examples are given in (2):

- (2) a. le pied de la table
 the foot of the table
 ‘the leg of the table’
 b. le dos du livre
 the back of the book
 ‘the spine of the book’
 c. la tête du lit
 the head of the bed
 ‘the headboard of the bed’

The list of French body part Ns that can potentially function as spatial part nouns is given in (3) below:

- (3) pied; tête; queue; ventre; dos; corps; coude; coeur; front; cul;
 foot head tail belly back body elbow heart forehead ass
 dent; nez; bouche; doigt; flanc
 tooth nose mouth finger flank

In what follows we will see that in this use spatial part nouns are very similar to the literal body part expressions: their interpretation is fixed in the part-whole relationship and is completely predictable on the basis of the shape and position of the whole (see also Vandeloise 1986); their meaning is extremely restricted; and they denote concrete, perceptible, independent objects.²

In addition to fixed spatial parts, body part nouns can also express another (distinct) type of location. Among the nouns in (3), some, but not all, can also function, I will argue, as relative spatial terms. In this case, they no longer designate a fixed part of an object (body part or spatial part), but instead a location projected from a part of the whole and relative to the whole. More specifically, in this case *pied* ‘foot’, for instance, no longer refers to the lower section of a standing whole-object, but to the area of ground at the bottom of the object. Contrary to fixed spatial part nouns, they necessarily require the existence of a whole from which the space they

²In all their uses, body part nouns are inherently relational. However, when they are used as body parts (*le pied de Jean* ‘the foot of John’) or as fixed spatial parts (*le pied de la lampe* (lit. the foot of the lamp) ‘the lamp-base’), they can denote perceptible objects independently of whether there exists in actuality a whole they are a part of (e.g. *un pied de lampe* ‘a lamp base’ does not require the existence of an actual lamp). This is not true of other spatial uses of body part nouns, as we will see in more detail below.

denote is projected.

As will become clear in the discussion, the contrast between *fixed* and *relative* spatial part nouns is not simply a semantic contrast. I will show that the two classes of nouns have very different syntactic properties as well, supporting the idea that relative spatial part nouns constitute a special class distinct from regular nouns. Their particular distribution and syntactic behavior, as it will turn out, provide ground to the idea that they are in actuality Axial Parts (borrowing a terminology proposed by Svenonius 2006) rather than Ns. Concretely, this means that they should be assimilated to the apparently nominal heads in complex prepositions of the type *à côté de* (lit. at side of) ‘beside’ or in English *in front of*. If this is true, then, French presents an interesting case of Axial Parts as heads of DPs.

2. Fixed versus relative spatial part nouns

The distinction between fixed and relative spatial part nouns is, first of all, a semantic distinction, and is clearly observable in the examples (4)-(7) below. For each example, the (a) situation gives the *fixed* spatial part N reading, and the (b) situation the *relative* one:

- (4) Le nez de l’avion est à l’ombre.
the nose of the.plane is in the.shade
- a. fixed spatial part N:
the front part of the plane is in the shade, the rest is in the sun.
- b. relative spatial part N:
all the plane is in the sun, however the position of the sun is such that there is shade under the front part of the plane (only).
- (5) La tête du lit est encore humide.
the head of.the bed is still wet
- a. fixed spatial part N:
the headboard is still wet (after washing it).
- b. relative spatial part N:
the floor under and around the section of the bed touching the wall is still wet (the rest already dried, for instance).
- (6) Le dos de la grange est en béton.
the back of the barn is in concrete
- a. fixed spatial part N:
the back wall is made of concrete.
- b. relative spatial part N:
the area of ground in the back of the barn is paved with concrete.

- (7) Le pied de la tour est couvert de mousse.
the foot of the tower is covered of moss
- a. fixed spatial part N:³
 the bottom section of the tower is moss-covered.
 - b. relative spatial part N:
 the area of ground at the bottom of the tower is covered by moss.

In the two cases the part nouns refer to completely different entities: in one case it is a concrete and perceptible object (a), whereas in the other it is a projected space (b).

Under the (a) interpretation, the nouns *nez* ‘nose’, *tête* ‘head’, *dos* ‘back’ and *pied* ‘foot’ refer to fixed parts in the part-whole relationship that are independent of the actual position of the whole and of the existence of an actual perceptible whole altogether. First, *le pied de la lampe* (lit. the foot of the lamp) ‘the lamp-base’, for instance, denotes the same portion of a lamp, no matter how the lamp is placed (whether standing, lying on the floor, etc.); and therefore remains fixed in all contexts.

Second, *pied* can denote a part that does not enter in a relationship with an existing whole but instead with a certain expectation of a whole. Specifically, *un pied de lampe* (lit. a foot of lamp) ‘a lamp-base’ can refer to an object expected to be the bottom part of a lamp, even in contexts where there is no actual whole lamp. Note that *pied* in *pied de lampe* is, nevertheless, even more relational than *pied* as a body part N, as, while we can refer to a (human) foot as *un pied* (without an overt complement), the spatial part *pied* must always be accompanied by its complement: i.e. *pied de lampe* and not *pied*.

Without exception, all body part Ns that can potentially be used as expressions of location can refer to fixed spatial parts of an object; additional examples are given in (8):

- (8) le ventre de la ville; la queue du train;
the belly of the city the tail of the train
 ‘the center of the city’ ‘the rear part of the train’
- le coude du tuyau; la bouche du métro;
the elbow of the pipe the mouth of the subway
 ‘the bend of the pipe’ ‘the entrance of the subway’
- le doigt de l’engrenage; le cul de la bouteille; etc.
the finger of the gear the ass of the bottle
 ‘the tooth of the gear’ ‘the bottom of the bottle’

³Speaker variation is attested here. Some speakers seem to allow a fixed interpretation for *pied* in restricted cases only, i.e. when the base part of the whole is clearly distinguishable in shape, color, material, etc. from the rest. Other speakers, myself included, allow the fixed reading with any vertical object (standing by itself, presumably).

In their fixed interpretation, spatial part Ns have a very restricted meaning and exhibit very strict selection restrictions on their complement. To illustrate this point, note that *pied* ‘foot’, for instance, cannot refer to the bottom section of anything, but is restricted to standing objects resting on an independent lower section: e.g. tables (‘table-leg’), beds (‘footboard’), glasses (‘base’), lamps (‘base’), statues (‘base’), cameras (‘tripod’), walls, towers, buildings (but see footnote 3), etc. Similarly, both *nez* ‘nose’ and *tête* ‘head’ refer to the front part of an object. The former, however, is restricted to vehicles whose front part resembles a pointing nose; i.e. cars, spaceships, tractors, planes, but only marginally bicycles, motorcycles, and not carriages, trailers, etc. The latter has a completely unrelated use, as it is restricted to (moving) objects that have roughly speaking the shape of a snake: trains, parades, marathons, corteges, processions, marching bands, etc. Likewise, *bouche* ‘mouth’ only applies to openings that allow something or someone to go towards the exterior or interior of a “tube” (in a broad sense): subway (‘entrance’; ‘exit’), air conditioning (‘spout’), sewer (‘drain trap’), guns (‘muzzle’), etc.

Let us turn now to the (b) reading, where the spatial part N denotes not a fixed part of a whole, but instead a space projected from a part of the whole. The part noun refers, in this case, to areas of ground instead of discrete objects. This reading is *relative*, because, first, it presupposes the existence of a perceptible whole and, second, it can vary relatively to the position of the whole object.⁴ In the (b) cases in (4)-(7), there must be an actual whole ground object in order for the relative reading to arise. Concretely, *le nez de l’avion* ‘the nose of the plane’ can denote the area of ground under the front part of the plane only if there is, in actuality, a plane. Note also that depending on the position of the plane the area of ground denoted by *le nez* ‘the nose’ does not remain necessarily the same. These two properties of relative spatial part Ns contrast clearly with those of fixed ones.

There is an evident meaning relationship, however, between the relative part noun and its related fixed noun, which appears clearly once we consider their respective selection restrictions on their complement. Any relative part noun is only compatible with a whole if the latter is also compatible with the related fixed noun. Thus, specifically, relative part *pied* is allowed with a whole object that has a fixed part *pied*. In the pair in (9), *pied* is allowed with a building, which has a fixed lower section that can also be referred to as a *pied*, while it is not allowed with *window*, which, although it is a vertical standing object, does not typically have a lower section referred to as a *pied*:

⁴This presupposes an *intrinsic* frame of reference (Levinson 1996). It can presumably also vary according to the position of the speaker in a *relative* frame of reference. I will disregard the distinction here.

- (9) a. Le pied de l'immeuble est couvert de déchets.
the foot of the building is covered of waste
 'The bottom of the building is covered by waste'
- b. #Le pied de la fenêtre est couvert de déchets.
the foot of the window is covered of waste

This suggests that the space projected from the whole by the relative spatial part N is projected precisely from the fixed spatial part of the whole the fixed noun refers to.

Regarding the distribution of relative spatial part Ns, it is important to notice that their use is much more restricted than the fixed ones. Among the body part nouns that can potentially express spatial locations and which are listed in (3) above, only the very limited sub-class given in (4)-(7)(b) allows the relative interpretation: *pied* 'foot', *tête* 'head', *dos* 'back' and *nez* 'nose'. All others only have a fixed spatial part meaning. In view of the limited number of body part nouns that can function as relative spatial parts, I propose that they must, in fact, be listed as relative spatial part items in the Lexicon, rather than derived (in whichever way) from the fixed ones. The four terms *pied*, *tête*, *dos* and *nez* constitute a class of relative spatial part items, which happen to be homophonous with the related fixed part Ns.⁵

One clear way to distinguish the two forms, in cases of homophony, is that only fixed spatial part terms can serve as a head in compound structures of the type (*spatial*) *N – de – N*, typical of compound formations in French, where the complement of *de* 'of' is a bare N, as in (10). The examples in (10) can only refer to fixed spatial parts, and not to relative locations (compare in particular (10d) with (5) above):

- (10) a. On ne peut pas retrouver un nez d'avion après un tel
one NEG can not find a nose of.plane after a such
 choc.
crash
 'A plane front part could never be found after such a crash'
- b. Le pied de table doit être repeint.
the foot of table must be repainted
 'The table-leg must be repainted'
- c. La tête de missile s'est perdue en mer.
the head of missile RFLX.is lost in sea
 'The missile-head was lost at sea'
- d. La tête de lit est encore humide.
the head of bed is still wet
 'The headboard is still wet'

⁵Nouns that can function as relative spatial terms are not exclusively body part expressions in French, but include also other spatial nouns (see, in particular, examples (39)-(40), below). If not as restricted as would appear from the discussion above, the list of relative spatial part nouns remains, nevertheless, very limited.

The apparent difficulty of forming compounds in cases such as *#un pied de tour* (lit. a foot of tower) or *#une tête de défilé* (lit. a head of parade) comes presumably only from the fact that it is more difficult to regard those as objects independent of their whole. Notice, however, that this problem can easily be overcome in the appropriate context:

- (11) Ton reportage est intéressant, mais tu n'as pas filmé
your documentary is interesting, but you NEG.have not shoot
 la tête de défilé.
the head of parade
 'Your documentary is interesting, but you didn't shoot the front
 section of the parade'

That only *fixed* spatial part nouns can be the head of a nominal compound seems to indicate that *fixed* and *relative* terms have a different status syntactically, making fixed spatial terms only behave like regular nouns. In what follows, we will see that this is precisely the case; and that the peculiar distribution and syntactic behavior of *relative* spatial part nouns forces us to assimilate them to other location terms that are apparently nominal but lack as well most of the regular properties of nouns.

3. Contrastive properties of *fixed* and *relative* spatial part nouns

In most of their occurrences, spatial part nouns (whether *fixed* or *relative*) appear with a definite complement (introduced by the preposition *de* 'of') (cf. examples (2), (4)-(7), and (8) above). Except for the fact that only fixed nouns can also take a bare complement (see above), on the surface at least forms such as *pied* 'foot', *nez* 'nose', *dos* 'back' and *tête* 'head', which can be either relative or fixed spatial part Ns, are not easily distinguishable. I will argue, however, that both nouns have very different properties, and that their differences are compelling enough to treat them as different classes of nouns.

3.1. Plural

The first contrast between fixed and relative spatial part nouns is that only the former can take plurals. Fixed spatial part nouns can be pluralized in two contexts: as plurals of the parts and with pluralities of the wholes. In the first case, they can be plural when they denote more than one part of the same whole object. A typical example would be *pied* in relation to a table, for instance, which has more than one leg. In this case, the part noun *pied*, as expected, appears in the plural; see examples in (12):

- (12) les pieds de la table; les coudes de la rivière;
the feet of the table the elbows of the river
 'the legs of the table' 'the bends of the river'

les dents de la scie; les doigts de l'engrenage; etc.
the teeth of the saw the fingers of the gear
 'the teeth of the saw' 'the teeth of the gear'

The other case where fixed spatial part nouns pluralize is when they take a plural complement, i.e. with plurality of the whole. In this case, the plural is in fact obligatory, as illustrated in (13), unless the head noun is interpreted generically, in which case, similarly to other occurrences of the definite article as generic, they can remain singular (14):

- (13) a. Les pieds des tables sont cassés.
the feet of.the tables are broken
 'The legs of the tables are broken'
- b. Les nez des avions doivent être déneigés.
the noses of.the planes must be cleared.of.snow
 'The noses [i.e. front parts] of the planes must be cleared of snow'
- c. Les flancs des montagnes sont verdoyants.
the flanks of.the mountains are verdant
 'The sides of the mountains are verdant'
- (14) a. Dans le style Louis XV, le pied des tables est
in the style Louis XV, the foot of.the tables is
 épuré.
uncluttered
 'In Louis XV style, table legs are uncluttered'
- b. Le nez des avions est bleu chez Air Tahiti.
the nose of.the planes is blue at Air Tahiti
 'For Air Tahiti, the nose of the planes is blue'
- c. Le flanc des montagnes est plus verdoyant vers le
the flank of.the mountains is more verdant towards the
 sud qu'au nord.
south than.in.the north
 'The mountains' sides are more verdant in the south than in the north'

By contrast, relative spatial part Ns are never compatible with the plural under any of the contexts discussed above. First, they are never found in the plural in relation to a singular whole; this suggests that there exists only one relevant relative part (as denoted by the spatial part N) for any given whole. Specifically, *pied*, for instance, under a relative interpretation must denote a single space projected at the bottom of the whole object (even though conceptually, at least, we could imagine in some cases a building having more than one bottom area according to different criteria such as

the position of the speaker for instance).⁶

- (15) *les pieds de l'immeuble; *les dos de la grange; *les nez de
the feet of the building the backs of the barn the noses of
 l'avion
the plane

Second, relative spatial part Ns cannot be pluralized even when they are constructed with pluralities of the wholes, in contrast with the cases in (13) above. Instead, relative spatial part nouns must remain in the singular:

- (16) *les pieds des immeubles; *les dos des granges; *les nez
the feet of the buildings the backs of the barns the noses
 des avions
of the planes
- (17) le pied des immeubles; le dos des granges; le nez
the foot of the buildings the back of the barns the nose
 des avions
of the planes

Contrary to (14) above, the singular in (17) is not interpreted as generic, but instead as a singular of the part distributing over the pluralities of the wholes. Supporting this contrast, note that while the sentences in (14) are compatible with adverbs of generic quantification, those in (17) are not (without a radical change in meaning): *Le nez des avions est généralement bleu chez Air Tahiti* 'The front part of the planes [lit. the nose of the planes] is generally blue for Air Tahiti' versus **Le nez des avions est généralement à l'ombre* 'The bottom area under the planes [lit. the nose of the planes] is generally shady'.

Classes of nouns that are known to never take the plural are relatively few in French (and for that matter English). Across the board, plural being associated to countability, nouns that do not have plural forms are non-countable. Two classes are commonly distinguished: mass terms (cf. **des airs* 'airs' or in English **waters*, **golds*, **furnitures*) and (at least some) abstract terms (**des chaos* 'chaoses' or in English **knowledges*, **kindnesses*, **informations*). Considering this point in conjunction with the fact that fixed spatial part nouns denote concrete, perceptible objects independent of their whole, while relative part nouns do not, one could conclude that the former are concrete countable terms, while the latter are abstract non-countable ones. In sum, this would mean that relative and fixed spatial part nouns are necessarily two different classes of nouns, as already hinted at in the discussion of nominal compound formation above. An alternative view would be that relative spatial part items are not nouns, and that although

⁶The ungrammaticality judgment in (15) concerns *relative* spatial part nouns only. There is a reading of (15) where the noun *pied* is fixed instead of relative, as already discussed above.

they exhibit at least in the surface some properties of nominals, they form a completely different class of word altogether. As we will see, evidence in French will favor the second view over the first one.

3.2. Determiners

Further differences between relative and fixed spatial terms are found in the context of determiners. As we will see below, fixed part nouns exhibit the expected behavior of typical nouns in being able to combine with the whole range of determiners (definite and indefinite articles, quantifiers, possessives). Relative part nouns, however, are much more restricted, and allow, as it will turn out, only one determiner, namely the definite article. We know from the discussion above that relative part nouns cannot pluralize; this means that relative part nouns can combine with one article only: the definite singular.

Relative spatial part nouns are found productively with the definite (singular) article *le*, *la* in French (see (4)-(7) above). They cannot, in particular, combine with the indefinite article (18). Indefiniteness, if expressed, must be marked on the noun complement (indefiniteness of the whole), while the part noun remains definite (19):

- (18) *Un pied d'un immeuble a été nettoyé.
a foot of.a building has been cleaned
- (19) Le pied d'un immeuble a été nettoyé.
the foot of.a building has been cleaned
 'The bottom of a building has been cleaned up'

They cannot combine with any quantifiers or demonstratives either. Similarly to the situation in (18)-(19), quantifiers and demonstratives can only be found on the noun complement, and modify the whole rather than its relative part:

- (20) a. *ce pied de l'immeuble
this foot of the.building
 b. le pied de cet immeuble
the foot of this building
- (21) a. *chaque pied de l'immeuble (/des immeubles)
every foot of the.building (/of.the buildings)
 b. le pied de chaque immeuble
the foot of every building
- (22) a. *aucun pied de l'immeuble (/des immeubles)
no foot of the.building (/of.the buildings)
 b. le pied d'aucun immeuble
the foot of.no building

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Fixed spatial part nouns, in contrast, allow both the definite article (cf. for instance (4)-(7) above) and the indefinite article (see (10a) above). The latter is found most productively with nominal compounds discussed earlier, see (23a), as well as, at times, with a definite complement, as in (23b) (contexts where the partitive is also possible: *un des pieds de la table* ‘one of the legs of the table’ (lit. one of the feet of the table)). They also freely allow demonstratives (24), and quantifiers (25)-(26) setting a clear contrast with relative nouns in (18)-(21):

- (23) a. un pied de lit; un nez de voiture; un dos de cuillère;
a foot of bed a nose of car a back of spoon
 une bouche d’égout
a mouth of.sewer
 b. un pied du lit; une bouche du métro
a foot of.the bed a mouth of.the subway
- (24) a. ce pied de lit; ce nez de voiture; ce dos de cuillère;
this foot of bed this nose of car this back of spoon
 cette bouche d’égout
this mouth of.sewer
 b. ce pied du lit; cette bouche du métro
this foot of.the bed this mouth of.the subway
- (25) a. chaque pied de lit; chaque nez de voiture; chaque dos de
every foot of bed every nose of car every back of
 cuillère; chaque bouche d’égout
spoon every mouth of.sewer
 b. chaque pied du lit; chaque bouche du métro
every foot of.the bed every mouth of.the subway
- (26) a. aucun pied de lit; aucun nez de voiture; aucun dos de
no foot of bed no nose of car no back of
 cuillère; aucune bouche d’égout
spoon no mouth of.sewer
 b. aucun pied du lit; aucune bouche du métro
no foot of.the bed no mouth of.the subway

The fact that relative spatial part terms cannot combine with the indefinite article, quantifiers and demonstratives suggests, once again, that they are distinct from typical nouns and, in particular, from fixed spatial part nouns.

The distinction is further manifested in another context exhibiting a clear restriction on the type of determiner relative spatial terms can take, namely possessives. As expected, considering what we know of relative spatial parts so far, these terms cannot combine with a possessive, and require instead, once again, the definite (singular) article. In this respect, they differ again from fixed spatial part expressions. The contrast, exemplified in (27)-(28), shows that when constructed in an anaphoric relationship with

the whole object, fixed spatial part nouns must take the possessive (27). In this context, however, relative part terms do not take the possessive, and must, once again, take the definite article:⁷

- (27) Nous avons remplacé la statue sans jamais toucher son/??le
we have replaced the statue without never touch its/the
 pied.
foot
 ‘We replaced the statue without ever touching its base’
- (28) Nous avons parcouru la montagne sans jamais atteindre
we have strolled the mountain without never reach
 *son/le pied.
its/the foot
 ‘We strolled the mountain without ever reaching its bottom’

Interestingly, however, the definite article in (28) is (descriptively at least) not the same as the definite article in another context where body part nouns are found productively with the definite article in French, i.e. inalienable possession. In French, body part nouns when in relation to animate wholes can be used with the definite article to express possession (29). The apparent similarity between inanimate wholes in (28) and animate ones in (29) is contradicted by one crucial difference. While the definite article in constructions with relative spatial part nouns (e.g. *le pied de la montagne* lit. the foot of the mountain) entails uniqueness of the part (cf. section 3.1, in particular), the definite article in construction with body part nouns (of animate bodies, e.g. *le pied de l'enfant* ‘the foot of the child’) is associated with no such restriction. Specifically, with body part nouns, the singular definite article is compatible with parts that are ‘possessed’ by the whole in more than one specimen. In (29), the definite article is compatible with the speaker having two hands and two legs (a-b) and still having ten fingers (c) (as with the possessive in English):

- (29) a. Le petit garçon me tient par la main.
the little boy me holds by the hand
 ‘The little boy holds my hand’
- b. Je me suis cassée la jambe.
I myself am broke the leg
 ‘I broke my leg’
- c. J’ai mal au doigt.
I have pain at.the finger
 ‘My finger hurts’

⁷Borillo (1991) notices similar facts in the context of complex PPs of the type *au pied de* ‘at the bottom of’ (lit. at.the foot of) and *au sommet de* ‘at the top of’. It is clear here that the restrictions are also found in DPs, and not only in PPs. We will come back to the PPs in section 4.

While the definite singular article entails uniqueness with relative spatial part nouns, note that this is not true for all nouns denoting projected space either. For instance *côté* ‘side’, when constructed with the definite singular article, does not entail uniqueness of the part, and is compatible with a whole (in (30), a building, for instance) having more than one side:

- (30) J’ai nettoyé le côté de l’immeuble.
I.have cleaned the side of the.building
 ‘I cleaned up the side of the building’

The reason relative spatial part nouns differ, in this context, from other projected space denoting nouns is not clear at this point, especially considering the similarities they otherwise exhibit (see section 4, below), and I must leave this issue unresolved here.

3.3. Adjectival modification

Finally, further supporting the special status of *relative* spatial part terms, I note that they, contrary to regular nouns, are unable to receive adjectival modifiers. In a very systematic manner, the insertion of an adjective modifying the head part noun triggers a fixed part interpretation and blocks the relative part reading. Specifically, a spatial part N such as *dos* ‘back’, which is homophonous between a fixed and a relative part (as shown in (6) above, for instance), can only be a fixed part in (31) below: the reflection in the lake can only be that of a back wall, and not the area of ground in the back of the barn:

- (31) Le dos ensoleillé de la grange se réfléchissait dans l’étang.
the back sunlit of the barn RFLX reflected in the.pond
 ‘The sunny back of the barn was reflected on the pond’

Other examples show exactly the same thing:⁸

- (32) Le nez aspergé de l’avion est maintenant décontaminé.
the nose sprayed of the.plane is now decontaminated
 ‘The sprayed nose [i.e. front part] of the plane is now decontaminated’

⁸I found one example (cf. (i)), where the modified part N is evidently both a relative and a fixed part. In this case, however, the projected space interpretation seems to be coerced by the modifying adjective. Because *ombre* ‘shade/shadow’ typically denotes the projection of an object (shape) onto a given surface, *le dos ombragé* ‘the shady back’ seems to potentially denote the projection itself, and therefore an area of the ground (i.e. the surface of reflection):

- (i) Le dos ombragé de la grange ne se réfléchissait pas dans l’étang.
the back shady of the barn NEG RFLX reflected not in the.pond
 ‘The shady back of the barn was not reflected on the pond’

If this is true, the same could probably also be said of example (4) above. The existence of examples (5)-(7), however, is a clear indication that, for unmodified spatial part Ns, the relative interpretation is not always a coerced interpretation.

As expected, nouns that are fixed spatial part nouns can, by opposition, freely take adjectives (33), as well as, for instance, superlatives (34):

- (33) Le pied cassé de la table a été réparé.
the foot broken of the table has been repaired
 ‘The broken leg of the table has been repaired’
- (34) Nous allons passer le coude le plus dangereux de la rivière.
we go pass the elbow the most dangerous of the river
 ‘We are going to pass the most dangerous bend of the river’

In the context of adjectives, only fixed spatial part Ns exhibit the typical behavior of regular nouns. Relative part nouns are again special.

4. Relative spatial part expressions are Axial Parts

The properties of relative spatial part nouns make them differ in crucial ways from regular nouns: they can take one determiner only (namely, the definite singular), they cannot pluralize and they do not allow adjectival modification. Their status as nominals is at least questionable. The only indication that they are in fact nominals comes from their need to function with the definite article.

This, however, in no way constitutes a proof that they are effectively nouns, as French allows a large variety of categories to function as (apparent) nominals with an article. As is well-known, French allows the following expressions to appear with an article, in the absence of an overt noun (with, at times, idiomatic readings): adjectives (*le rouge* (lit. the red), *la belle* (lit. the handsome.fem), *les petits* (lit. the small.pl); see Borer and Roy 2005), adverbs (*l’ailleurs* (lit. the elsewhere), *le pourquoi* (lit. the why), *le peut-être* (lit. the maybe)), verbs (*le manger* (lit. the eat.inf), *le devenir* (lit. the become.inf), and also prepositions (*le pour* (lit. the for), *le contre* (lit. the against)).

As we will see below, relative spatial part nouns share (in fact) their properties with other spatial location expressions, specifically the apparent nominals found in complex prepositions as in (35). The so-called complex prepositions are formed, in French (as in many other languages) with a simple preposition (most commonly *à* ‘at/in’) combined with a noun, with or without an article.⁹ The head noun in (35) is referred to as an Axial Part (henceforth, *AxPart*) and in the semantic decomposition of prepositions determines the space projected from the Ground (Svenonius 2006):

⁹More rarely, complex prepositions in French can also be formed from an adjective (*au long de* ‘along’ (lit. at the long of)) or an adverb (*au delà de* ‘beyond’ (lit. at the beyond of)), introduced by an article. This seems to indicate that Axial Parts are not exclusively homophonous with nouns; a point that requires further investigation and in particular cross-linguistic investigation.

BODY PART NOUNS IN EXPRESSIONS OF LOCATION IN FRENCH

- (35) a. à l'intérieur de
at.the.interior of
 'inside'
 b. au fond de
at.the depth of
 'at the bottom of'
 c. à côté de
at side of
 'beside'

The heads of these complex prepositions are almost systematically related to nominal equivalents in the DP system¹⁰, including in cases like (36a), which no longer have a nominal equivalent in referential uses (presumably because it has been lost diachronically) (see (36b)), except in idiomatic expressions (36c):

- (36) a. au travers de la route; autour de la cheville
at.the traverse of the road at.the.tour of the ankle
 'across the road' 'around the ankle'
 b. *le travers (de la route); *le tour (de la cheville)
the traverse of the road the tour of the ankle
 c. un travers de porc; ton tour de tête
a traverse of pork your tour of head
 'pork ribs' 'your head size'

The properties of these apparent nominal heads, if not well understood, are at least well documented cross-linguistically (see, in particular, Pantcheva 2006 for Persian and Son 2006 for Korean). For French, I can point out at least three important properties that make them differ from regular nouns and pattern instead with our *relative* spatial part terms: adjectives, determiners and number.

First, AxParts in French (and also other languages as English, for instance) can never take adjectival modifiers. In (37), the insertion of an article modifying the (bare) head noun simply triggers ungrammaticality. In (38), where the head noun is introduced by the definite article, adjective insertion blocks the AxPart reading and triggers ungrammaticality as well. It leaves, however, the possibility of interpreting the head noun as a referential noun (in which case it would be constructed with a single preposition, which would have to be different from the one in (38): *dans le joli intérieur de* 'in the pretty home of' (lit. in the pretty interior of), *dans le fond obscur de* 'in the dark bottom of' (lit. in the dark depth of)):

- (37) a. *à grand côté de
at large side of

¹⁰See footnote 9, however.

- (38) b. *à long travers de
at long traverse of
 a. *au joli intérieur de
at.the pretty interior of
 b. *au fond obscur de
at.the depth dark of

Second, they differ in two major ways from regular nouns with respect to their determination. AxParts can be bare, as in (35c) above, whereas French is known to never allow bare (argumental) nouns. The only occurrences of bare nouns in French are in predicational contexts (specifically, in post-copular position, small clauses, etc.) and therefore never as DPs. In addition, AxParts, when they combine with an article, can take one form only: i.e. the definite article:

- (39) a. à {*un/ *chaque/ *aucun} intérieur de
at a every no interior of
 b. à {*un/ *chaque/ *aucun} fond de
at a every no depth of

Finally, they cannot be marked for number, and specifically cannot appear with plural marking. Again, the only interpretation for (40a,b), if any, is that of a real N introduced by a single preposition, and not an AxPart (although in this case again the preposition would presumably have to be different):

- (40) a. *aux intérieurs de
at.the.pl interiors of
 b. *aux fonds de
at.the.pl depths of
 c. *aux côtés de
at.the.pl sides of

In sum, the properties of AxParts are evidently similar to the ones of our *relative* spatial part terms. The similarities between *relative* spatial part nouns in the DP system and AxParts in the functional projection of PPs are convincing enough to warrant a unified treatment, and suggest that the former (i.e. *relative* spatial part terms) are in actuality instances of the latter, i.e. they are AxParts.

Interestingly, the similarities between the two extend to their uses in PPs as well. For AxParts, we know that, in PPs, they exhibit very strict restrictions on the choice of the (simple) preposition they can combine with (usually one form is possible only, sometimes two). In additional support of the claim that *relative* spatial part nouns are in actuality AxParts, I find that in their occurrences in PPs, they also take a very limited set of prepositions (in most cases one only), as exemplified in (41)-(44) below:

BODY PART NOUNS IN EXPRESSIONS OF LOCATION IN FRENCH

- (41) a. au pied de la lampe
at.the foot of the lamp
 ‘at the bottom of the lamp’
 b. ??du pied de la lampe
from.the foot of the lamp
 ‘from the bottom of the lamp’
 c. { *dans le/ *sur le/ *contre le } pied de la lampe
in the on the against the foot of the lamp
- (42) a. à la tête du train
at the head of.the train
 ‘in the front section of the train’
 b. en tête de train
in head of train
 ‘in the front section of the train’¹¹
 c. { *de la/ *dans la/ *sur la/ *contre la } tête du train
from the in the on the against the head of.the train
- (43) a. au dos de la grange
at.the back of the barn
 ‘in the back of the barn’
 b. { *du/ *dans le/ *sur le/ *contre le } dos de la grange
from.the in the on the against the back of the barn
- (44) a. sous le nez de la voiture
under the nose of the car
 ‘under the front section of the car’
 b. { *au/ *du/ *sur le/ *contre le } nez de la voiture
at.the from.the on the against the nose of the car

Again, the examples marked with an asterisk above are possible, but only with a fixed spatial part reading for the head noun, i.e. precisely not the projected space interpretation, and therefore *not* as complex prepositions (but instead as a regular part noun introduced by a single preposition). In these cases, as expected, a compound form of the type *N-de-N* is allowed as well:

- (45) a. dans / sur / contre le pied de lampe
in on against the foot of lamp
 ‘in/on/against the lamp-base’

¹¹The preposition *à* ‘at/in’ followed by a feminine (definite) noun is often realized as *en* in French. Consider, as an illustration, the alternation, in the context of country names between the preposition *à*, which appears with the definite article only when it is masculine (and realized as the contraction *au* (lit. *à+the.masc*), vs. the preposition *en* found without an overt article in the case of feminine countries: *au Portugal* (in+the.masc Portugal.masc), *au Sénégal* (in+the.masc Senegal.masc), *au Canada* (in+the.masc Canada.masc), but *en Norvège* (in Norway.fem), *en France* (in France.fem), *en Italie* (in Italy.fem). It is thus plausible that examples (42a) and (42b) are simply variants of the same form.

- b. dans / sur / contre le dos de la grange
in on against the back of the barn
 'in / on / against the back wall of the barn'
- c. dans / sur / contre la tête du train
in on against the head of the train
 'in / on / against the front coach of the train'
- d. au / du / sur le / contre le nez de la voiture
at.the from.the on the against the nose of the car
 'at / from / on / against the front part of car'

When constructed inside a PP, the semantic distinction between *relative* spatial part terms (which are AxParts) and *fixed* spatial part nouns is, again, very clear and mirrors the contrasts found in their DP uses: depending on whether they are true Ns or AxParts, spatial part terms refer to completely different places, i.e. fixed location (N) or projected space (AxPart):

- (46) a. Attache le ruban au pied_N de l'arbre.
tie the ribbon at.the foot of the tree
 'Tie the ribbon to the bottom part of the tree' [i.e. the trunk]
- b. Les fleurs poussent au pied_{AxPart} de l'arbre.
the flowers grow at.the foot of the tree
 'Flowers grow at the bottom of the tree' [i.e. on the soil around the tree]
- (47) a. Le moustique est collé sous le nez_N de la voiture.
the mosquito is stuck under the nose of the car
 'The mosquito is stuck under the front part of the car' [i.e. the bumper]
- b. Le chien a traversé sous le nez_{AxPart} de la voiture.
the dog has crossed under the nose of the car
 'The dog crossed the street right in front of the car' [i.e. the area right under the front of the car, and as a consequence the car almost hit it]

All the relevant contexts converge to suggest that relative spatial part terms are not Ns but instead AxParts. This means that French has AxParts as heads of DPs. It also suggests that the role of the (singular) definite article found (obligatorily) with relative spatial part terms is precisely that of a function that turns AxParts into (referential) DPs, and thus into argumental expressions.

As already mentioned, the definite article can easily combine with all sorts of categories in the absence of an overt N in French (see above); to the list given earlier, we can now add AxParts as well. Since the definite article can take AxParts in French, we expect to find other location terms with a relative interpretation in argumental uses beside spatial parts. As it turns

out, this is precisely the case. AxParts that are not homophonous with body parts can also appear as DPs. Location nouns like *côté* ‘side’ and *bas* ‘bottom’ can be either Ns or AxParts, in French (48)-(49). As AxParts, they can occur in argumental contexts as DPs. Compare, in particular, (48b) and (49b) with (6b) and (7b), above, respectively:

- (48) Le côté de la grange est en béton.
the side of the barn is in concrete
 a. N:
 the side wall is made of concrete.
 b. AxPart:
 the area of ground on the side of the barn is paved with concrete.
- (49) Le bas de la tour est couvert de mousse.
the bottom of the tower is covered of moss
 a. N:
 the bottom section of the tower is moss-covered.
 b. AxPart:
 the area of ground at the bottom of the tower is covered by moss.

Finally, to point out one property of AxParts that is not shared when occurring in DPs and when occurring in PPs, note that the former can be pronominalized (50), while the latter never allow pronominalization (51). This is, however, exactly what is expected since the location expression (e.g. *le dos de* ‘the back of’ in the pair below), which is an AxPart in both cases, occurs as a DP in (50), and therefore as any other referential expression, is pronominalizable; whereas it is a bare AxPart in (51) (which, being neither a referential expression nor a predicate, cannot be pronominalized in French):

- (50) DP(AxPart)
 Alors que le dos de la grange se réfléchissait dans le lac,
while that the back of the barn RFLX reflected in the lake
 celui de la ferme restait invisible.
the.one of the farmhouse remained invisible
 ‘While the back (area) of the barn was reflected on the lake, that [i.e. the back] of the farmhouse remained invisible’
- (51) AxPart-PP
 *L’oranger pousse au dos de la grange et le
the.orange.tree grows at.the back of the barn and the
 citronnier à celui de la ferme.
lemon.tree at the.one of the farmhouse
 intended: ‘The orange tree grows in the back (area) of the barn, while the lemon tree grows in that [i.e. the back] of the farmhouse’.

Note that AxParts in PPs as in (51) contrast, as well, with fixed spatial part nouns in PPs, as in (52). This contrast is again expected, since fixed spatial part nouns are true nominals, and since in the context exemplified in (52) they are DPs complement of the prepositions *à* ‘at/in’ and *sur* ‘on’:

- (52) Fixed spatial part Ns
- a. Paul attache un ruban au pied de l’arbre et toi à
Paul ties a ribbon at.the foot of the.tree and you at
celui de la statue.
the.one of the statue
 ‘Paul is tying a ribbon to the bottom of the tree, and you to that [i.e. the bottom] of the statue’
- b. Paul grave son nom sur le pied de l’arbre et toi sur
Paul engraves his name on the foot of the.tree and you on
celui de la statue.
the.one of the statue
 ‘Paul is engraving his name on the bottom of the tree and you onto that [i.e. the bottom] of the statue’

This means, however, that the definite article in (51), i.e. in complex PPs, is not the same as the definite article in (50) and in (52), as it does not serve, in the first case, to form DPs. The status of the definite article in complex PPs remains rather mysterious and I do not have anything more to add, except to point out again, and in support of the idea that they are different, that the definite article in complex PPs can, in many occurrences, be dropped in French, as in (53), while French does not have bare DPs at all:

- (53) *à côté de; à bord de; à travers de; etc.*
at side of at board of at traverse of
 ‘beside’ ‘on board’ ‘across’

I leave the issue of the status of the definite article in complex PPs open for further investigation.¹²

5. Conclusion

To conclude, the detailed study of body part nouns in French has shown that at least three types of expressions need to be distinguished: body part nouns (which can appear without their complement; e.g. *un pied* ‘a foot’), spatial part nouns (which always require their complement; e.g. *un pied de*

¹²In a very interesting way, the forms without an article often co-exist with variants with an article, with, at times, significant differences in meaning: *à travers de* (lit. at traverse of) ‘across’ vs. *au travers de* (lit. at the traverse of) ‘through’, *à bord de* (lit. at board of) ‘on board’ vs. *au bord de* (lit. at the board of) ‘at the edge/verge of’. I will leave this issue aside here.

table ‘a table leg’ (lit. a foot of table)), and spatial part AxParts (which exhibit the relevant properties of other AxParts not homophonous with body part nouns; e.g. *le pied de la tour* ‘the bottom area of the tower’ (lit. the foot of the tower)).

All of them have in common that they are inherently relational terms, however, by semantic criteria, as all necessarily have more than one argument. In the case of body part Ns, they denote a relationship between two arguments, x and y, where x is the *body part* of y; similarly, for spatial part Ns, where x is a *spatial part* of y and for AxParts, where x is a *projected space* of y.

In addition to the many semantic sub-divisions commonly accepted among relational nouns (kinship, e.g. *son*, *father*, body parts, e.g. *foot*, *arm*, measure, e.g. *kilo*, *bunch*, etc.) we can add one more: *spatial locations*. The spatial part expressions studied here are examples of them, as are nouns like *edge*, *top*, *summit*, *coastline*, *border*, etc., which all express part-whole relationships. Note that this property does not differentiate part nouns from other relational nouns according to Barker and Dowty (1992), who argue that all relational nouns express, in actuality, Proto-Part and Proto-Whole relationships.

Finally, we have seen that in French AxParts can occur as heads of DPs in argumental positions. This means that AxParts are not restricted to occurring in PPs only, as one might think in the light of languages like English, for instance, where AxParts are (to the best of my knowledge) not permitted as DPs. In fact, if it is true that the two languages differ in this way, the difference should be placed, I have suggested, at the level of the article, and the possibilities in the language for the article to combine with other categories than NPs (or alternatively with null nouns modified by adjectives, PPs, etc.), rather than as an intrinsic property of AxParts. The validity of this claim would need to be further investigated cross-linguistically and is left open for further research.

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DERIVING THE READINGS OF FRENCH *ÊTRE EN TRAIN DE*

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French *être en train de* (*êtd*, lit. ‘be.INF in the midst of’), generally considered to be the French progressive, has a reading in which the speaker expresses a negative attitude toward the described event. However, not all readings have this expressive meaning. Curiously, the “neutral” reading is not always felicitous. We consider and reject possible analyses in which the expressive meaning arises due to Gricean inference or due to there being two lexical entries for *êtd*. We propose that, like ordinary progressives (Portner, 1998), *êtd* has a modal at-issue meaning with a circumstantial modal base and a stereotypical ordering source. In addition, we argue, it has a modal conventional implicature with either a stereotypical or a bouletic ordering source. In this way we account for the behavior of *êtd*, and raise certain questions as to how conventional implicatures might be related to grammaticalization of aspect.

1. Introduction

The French simple present has both a generic/habitual reading and an ongoing reading. Hence, a sentence like (1) is ambiguous between a reading where that person normally or habitually eats bread and a reading where he is eating bread at present.

- (1) Il mange du pain.
he eats of.the bread
a. ‘He eats bread.’ [generic/habitual]
b. ‘He is eating bread.’ [ongoing]

French also has another construction that expresses ongoing meaning, namely *être en train de* (henceforth, *êtd*), lit. ‘be in the midst of’. This construction is traditionally referred to as the French progressive.

- (2) Il est en train de manger du pain.
he is in midst of eat.INF of.the bread

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‘He is eating bread.’

So, like many languages, French has two ways to express ongoing meaning, via the simple present and the progressive form. However, as has been noted (Franckel 1989, Lachaux 2005, Martin, 2006, Do-Hurinville 2007, Patard & De Wit, 2011), French *êtd* differs from “ordinary” progressives (for instance, English *be -ing* or Spanish *estar -ndo*) in two notable ways. First of all, French *êtd* cannot express ongoing meaning in certain contexts where “ordinary” progressives are fine: compare (3)-(4), in English and Spanish respectively, with (5). The normal way to express the ongoing falling of rain is the simple present in French as in (5b). The *êtd* sentence in (5a) is judged awkward or inappropriate by native speakers in a neutral, out-of-the-blue context (but we will see below that (5a) is sometimes possible in other contexts).

- (3) It’s raining.
- (4) Está lloviendo.
 estar.PRES.3S raining
 ‘It’s raining.’
- (5) a. # Il est en train de pleuvoir.
 it is in midst of rain.INF
 ‘It’s raining.’
 b. Il pleut.
 it rains

Second, some instances of *êtd* seem to be associated with an additional expressive meaning, compared to the simple present: *êtd* sentences very often seem to convey information about the speaker’s attitude toward the ongoing event. For instance, the question in (6b) is associated with an expressive meaning (glossed as ‘the hell’), and seems to imply that the person is doing something that (s)he shouldn’t be doing. A similar meaning of disapproval is found in examples (7b) and (8b).

- (6) a. Qu’est-ce que tu fais?
 what.is-it that you do
 ‘What are you doing?’ / ‘What do you do?’
 b. Qu’est-ce que tu es en train de faire?
 what.is-it that you are in midst of do.INF
 ‘What (the hell) are you doing?’
- (7) a. Nous savons tous ce qui se passe en Crimée.
 we know all that which REFL goes.on in Crimea

- ‘We all know what’s going on in Crimea.’ / ‘We all know what goes on in Crimea.’
- b. Nous savons tous ce qui est en train de se
we know all that which is in midst of REFL
passer en Crimée.
go.on.INF in Crimea
‘We all know what’s going on in Crimea (and I disapprove).’
- (8) a. Il prend un bonbon.
he takes a candy
‘He is taking a piece of candy.’ / ‘He takes a piece of candy.’
- b. Il est en train de prendre un bonbon.
he is in midst of take.INF a candy
‘He is taking a piece of candy (and he shouldn’t be).’

And, in fact, while we said that the *êtd* construction is not possible in a normal, neutral context with the verb *pleuvoir* 'rain' as in (5a), it becomes possible with an expressive meaning conveying, e.g. in (9) that we don't want rain on our picnic:

- (9) Il est en train de pleuvoir sur notre pique-nique.
it is in midst of rain.INF on our picnic
‘It is raining on our picnic (and the picnic is ruined).’

Yet the expressive meaning does not always arise with *êtd* sentences. There are felicitous cases of *êtd* that do not seem to convey expressive meaning. For instance, *êtd* is commonly used to disambiguate between an ongoing and a habitual reading (10-11):

- (10) Quand je rêve de moi, je cours. Je veux dire, je suis en
when I dream of me, I run I want say.INF I am in
train de courir.
midst of run.INF
‘When I dream of myself, I {run/am running}. I mean, I am running.’
- (11) Chaque enfant est en train de décorer son sapin de
each child is in midst of decorate.INF his tree of
Noël.
Christmas
‘Each child is decorating their own Christmas tree.’ (and they are not done yet)

This article addresses the various readings associated with French *être en train de*. The issues to be explained are: (i) the content of the additional expressive meaning, (ii) the reason why the expressive meaning seems to not always arise, and (iii) the reason why the “neutral,” non-expressive reading—i.e, the reading without the expressive meaning—is sometimes felicitous, as shown in (10) and (11), but is not always felicitous, as shown in (5a).

We consider and reject two analyses: one in which the additional meaning is derived via Gricean implicature, and another in which *êted* is ambiguous between one lexical entry that has a conventional implicature to convey the expressive meaning, and another lexical entry that lacks it. We propose instead that *êted* always has a conventional implicature. Following Portner’s (1998) analysis of the English progressive, we treat the at-issue (ongoing) meaning of *êted* as involving a modal with a stereotypical ordering source. We also treat the conventional implicature as involving a modal, but unlike the modal in the at-issue meaning, the modal in the conventional implicature can have a bouletic as well as a stereotypical ordering source. We derive the taxonomy of readings of *êted* according to the ordering source of the conventional implicature and the interaction of the conventional implicature with the at-issue meaning.

2. A conventional rather than a conversational implicature

One possible analysis of the contrast between *êted* and the simple present is that of a Gricean implicature from the fact that the speaker chose the progressive over the simple present, to the conclusion that the speaker must be insisting on the ongoingness for some reason, namely that they disapprove. We see two issues with such an analysis.

First of all, a conversational implicature is cancellable. However, the expressive meaning associated with *êted*, when it is present, is not cancellable. Any lexical material that indicates that the speaker has a positive attitude toward the proposition effectively contradicts the expressive meaning. If the expressive meaning is cancellable, adding such lexical material should be possible. However, we see in (12) and (13) that with material signaling a positive attitude toward the proposition, the only reading available is a negative one (ironic or suspicious); the speaker does not really have a positive attitude (contrary to (13a)).

- (12) Qu’est-ce que tu es en train de nous faire pour le
 what.is-it that you are in midst of us do.INF for the
 dîner? - On va se régaler!
 dinner we go REFL enjoy
 ‘What are you cooking for dinner? - We are going to love
 it!’ only negative/ironic

- (13) a. Qu'est-ce que tu fais de beau ?
 what-is-it that you do of nice
 'What are you doing that's nice?'
 b. Qu'est-ce que t'es en train de faire de beau ?
 what-is-it that you-are in midst of do.INF of nice
 'What are you doing that's nice?'
 Franckel (1989); only negative/ironic

This fact indicates that the expressive meaning is not cancellable, therefore it is not contributed by a conversational implicature.

Secondly, if the expressive meaning of *êtd* really were contributed by a Gricean conversational implicature, we would expect such an implicature to arise quite generally in languages that have both a simple present and a progressive. But when we compare French and, e.g., Italian, it appears that for at least some speakers of Italian, the ongoing reading of (14a) and the only reading of (14b) are very similar if not identical in meaning:

- (14) a. Cosa fai?
 what do.2S
 'What are you doing?' / 'What do you do?'
 b. Cosa stai facendo?
 what stand.2S doing
 'What are you doing?'

And, moreover, in contrast to French, the use of (15b) does not require the speaker to have a negative stance toward what the interlocutor is doing; (15a) and (15b) are equivalent:

- (15) a. Cosa fai di bello ?
 what do of nice
 'What are you doing that's nice?'
 b. Cosa stai facendo di bello ?
 what stand doing of nice
 'What are you doing that's nice?'

The *stare -ndo* construction in Italian thus does not contribute a negative expressive meaning. Such an expressive meaning seems, therefore, to be particular to the French *êtd* construction rather than a general Gricean conversational implicature provoked by the hearer's knowledge that the speaker could have chosen the simple present but didn't.

Rather than a conversational implicature, it seems we are dealing with a conventional implicature. We take our sense of what a conventional implicature is from Potts (2005), who builds on Grice (1975). Conventional

implicatures (henceforth “CIs”) are part of the conventional meanings of words, they are independent of the at-issue meaning, and they are non-cancellable speaker commitments. The expressive meaning associated with *êetd* fulfills all these conditions: it is associated with a particular phrase (namely, *êetd*), it is independent of the at-issue meaning (e.g., the expressive meaning is not what’s being questioned in (5b)); and as we have just shown, it is not cancellable.

3. A first conventional implicature proposal for *êetd*

Taking on board the idea that a CI is the source of the expressive meaning associated with *êetd*, a first proposal might be that *êetd* is simply ambiguous between the expressive and “neutral” readings: one reading has the CI and one reading lacks it. The content of the expressive meaning on this account would be that the propositional complement of *êetd* is bad according to the speaker.

- (16) a. *êetd*_{neutral} at-issue meaning: p is ongoing
 b. *êetd*_{expressive} at-issue meaning: p is ongoing;
 CI: p is bad

This hypothesis treats the at-issue meaning of expressive *êetd* the same as the ongoing reading of the simple present, and correctly so; to see why, consider the question (17) and the responses in (18). A question with *êetd* can be felicitously answered using the simple present, as shown in (18a). In fact, as demonstrated in (18b), it *must* be answered using the simple present.

- (17) Qu’est-ce que tu es en train de faire ?
 what.is-it that you are in midst of do.INF
 ‘What (the hell) are you doing?’
- (18) a. Bah, je joue.
 uh I play
 ‘Uh, I’m playing.’
 b. #Bah, je suis en train de jouer.
 uh I am in midst of play.INF
 ‘Uh, I’m playing.’

The fact that using *êetd* is odd in response to an *êetd* question also provides further support for our claim that there is a CI involved with *êetd*, in that it is odd for the speaker of (18b) to add their own CI in answer to the question.

The hypothesis in (16) is thus *prima facie* plausible. However, it faces several problems related to ambiguity and the content of the CI. The first two problems concern the idea that *êetd* is lexically ambiguous. First, the reason for the proposed ambiguity is left unexplained. The assumption

that there are two lexical entries (whether accidentally homophonous or diachronically related) does not shed any particular light on why *êtd* should be ambiguous in this way. The second problem with the lexical ambiguity view is that the neutral reading of *êtd* is predicted to always be possible. The infelicity of, e.g., (5a) is completely unexpected if *êtd_{neutral}* is available, since there is no particular reason to assume that *êtd_{neutral}* should have a restricted distribution. So, the hypothesis in (16) presents two lexical items but does not explain their distribution.

The third issue regarding the hypothesis in (16) involves the content of the proposed CI of *êtd_{expressive}*. It is not always the case that the expressive meaning conveys that the speaker considers p to be bad. Cases such as (19) and (20) below illustrate this point.

- (19) Le général était en train de s’habiller.
 the general was in midst of REFL-dress.INF
 ‘The general was getting dressed.’
 ⇒ the general wasn’t “visible”
- (20) Je suis en train de me brosser les dents.
 I am in midst of REFL brush.INF the teeth
 ‘I am brushing my teeth.’ (context: the phone rings)
 ⇒ I cannot pick up the phone

These cases make it clear that the speaker need not disapprove of p: (19) and (20) can be felicitously uttered even if, according to the speaker, it’s not bad that the general is getting dressed, or that the speaker is brushing their teeth. These are, in fact, quite normal things to do. Rather, the intuition in these cases seems to be that some other proposition q is desired (the speaker seeing the general, the speaker picking up the phone), but it so happens that q is incompatible with p. Such a characterization would also account for the cases where p seems to be $\sim q$, as in examples (6) - (9). This intuition will give us one of the tools we will need to understand the apparent variation in the contribution of the CI.

4. Proposal

With these cases in mind, we propose to understand the CI of *êtd* as making reference to an additional proposition q. We will use modal semantics, and the relationship between p (the propositional argument of the at-issue meaning, thus explicitly described by the lexical material in the sentence) and q (the propositional argument of the CI, not referred to by the lexical material in the sentence) to account for the various readings of *êtd*, including the neutral reading.

We argued above on the basis of the question-answer pair in (17) and (18a) that the at-issue meaning of *êetd* is the same as the ongoing reading of the simple present. We base our analysis of the at-issue meaning on Portner’s (1998) modal proposal for the English progressive. We first assume an index *c* that collects contextual variables as in (21), including variables representing the speaker’s conversational backgrounds in s_c , the situation of utterance.

- (21) $c = \{x_c, s_c, f_c, g_c, b_c\}$
 x_c : speaker
 s_c : situation of utterance
 f_c : speaker’s circumstantial conversational background in s_c
 g_c : speaker’s stereotypical conversational background in s_c
 b_c : speaker’s bouletic conversational background in s_c

The at-issue denotation of *êetd* is as in (22). The idea is that all the stereotypically-best circumstantially accessible worlds—those worlds accessible, given the circumstances, from the actual world, that most agree with stereotypical or lawlike behavior—are such that they contain a situation s' , where s' is a supersituation of the topic situation s , such that p is true of s' .

- (22) at-issue meaning of $[[\hat{e}etd]]^c$ (stereotypical ordering source)
 $= \lambda p \lambda s . \forall w \in \text{Best}(f_c, g_c) : \exists s' \text{ is part of } w \text{ and } s \text{ is a non-}$
 $\text{final part of } s' : [p(s')]$

As for the CI, we know that the expressive meaning has something to do with the desire of the speaker. Adapting Heim’s (1992) analysis of *want*, we treat the speaker’s desire-worlds as being those which are, according to the speaker, accessible from the circumstances of the speech situation and most preferable. Thus, we use the speaker’s circumstantial conversational background to form a modal base consisting of the accessible worlds, and we use the speaker’s desires to form a “bouletic” (desire) ordering source, which picks out the accessible worlds that best satisfy the speaker’s preferences. Using the same aspectual semantics as in (22), we get (23) as the bouletic CI:

- (23) CI of $[[\hat{e}etd]]^c$ (bouletic ordering source) =
 $\lambda q \lambda s . \forall w \in \text{Best}(f_c, b_c) : \exists s' \text{ is part of } w \text{ and } s \text{ is a non-}$
 $\text{final part of } s' : [q(s')]$

We retain the aspectual semantics of the at-issue meaning because in the CI the desired event would be begun or in progress at the speech situation and, if telic, would reach its conclusion after the speech situation. Note that the

CI in (23) has its own proposition q , with no particular relation to p , and that the value of q may be different from the value of p .

So we have the at-issue modal, in (22), with a circumstantial modal base and a stereotypical ordering source, and the modal CI, in (23), with a circumstantial modal base and a bouletic ordering source. Now, we know that if a modal has a circumstantial modal base, one and the same modal can often have *either* a bouletic or a stereotypical ordering source.

- (24) I think that I will go to Harvard Square tomorrow...
- a. ...I've been meaning to get some shopping done.
[bouletic]
 - b. . .that's just the kind of thing I might do.
[stereotypical]
- Copley, 2002

We're not suggesting that the at-issue meaning of *êtd* given in (22) has another construal with a bouletic ordering source. However, we would like to suggest that the modal CI in (23) has both possibilities for its ordering source. So, in addition to (23) being a possible CI for *êtd*, we claim that the denotation in (25) is also available as a CI for *êtd*:

- (25) CI of $[[\hat{e}td]]^c$ (stereotypical ordering source) =
 $\lambda q \lambda s . \forall w \in \text{Best}(f_c, g_c) : \exists s' \text{ is part of } w \text{ and } s \text{ is a non-final part of } s' : [q(s')]$

Using these CIs, we now explain how they account for the various readings of *êtd*. We propose that *êtd* ALWAYS has a CI, including in the neutral case. In expressive readings, the CI has a bouletic ordering source as in (23); this is clear enough from the cases in (6) - (9) and (19) and (20). Neutral cases should obviously not have a bouletic ordering source in the CI; we will argue that they have the CI with the stereotypical ordering source, as in (25).

The choice of ordering source, however, is not the only difference between the expressive reading we have seen so far and the neutral reading we have seen so far: while the former requires that p be incompatible with q , the latter has no such requirement. Compare, for instance, (6)-(9) and (10)-(11). This difference raises the possibility of a taxonomy of readings based on two factors: the choice of ordering source in the CI, and the relationship between p (the proposition expressed by the complement of *êtd* and involved in the at-issue meaning) and q (the proposition introduced by the CI). *Êtd* does not impose any particular relationship between p and q , which means that the logical possibilities in such a taxonomy are as follows:

- (26) a. bouletic ordering source in the CI (expressive reading)
- (i) $p \neq q$
 - (ii) $p = q$

- b. stereotypical ordering source in the CI (neutral reading)
- (i) $p = q$
 - (ii) $p \neq q$

Note that only the choice of ordering source, strictly speaking, involves different *readings* per se; the relation between p and q is not represented in the semantics, so is strictly a matter of vagueness. We will call the four different logical possibilities “cases” for ease of discussion. Let us consider the four cases in turn.

5. A taxonomy of *êetd*

5.1 Expressive cases: bouletic ordering source

5.1.1 Discordant case: bouletic ordering source, $p \neq q$

The expressive readings we have seen so far, in (6)-(9), (19), and (20), fall into this case. Consider for instance (8b), repeated here as (27):

- (27) Il est en train de prendre un bonbon. = (8b)
 he is in midst of take.INF a candy.
 ‘He is taking a piece of candy (and he shouldn’t be).’
 ($q = \neg p$)

The at-issue meaning, according to (22), is that the current situation s is such that there is a supersituation s' of s , s a non-final part of s' , such that on all circumstantially accessible worlds most compatible with the speaker’s stereotypical knowledge, *he take a candy* is true of s' . The CI has a bouletic ordering source as in (23): the current situation s is such that there is a supersituation s' of s , s a non-final part of s' , such that on all circumstantially accessible worlds most compatible with the speaker’s desires, a proposition q is true of s' . What the speaker judges is that p is in the midst of happening, but the speaker would prefer that q be in the midst of happening.

For example (27), q could be $\neg p$. However, as we have seen above for (19) and (20), q doesn’t have to be $\neg p$. It could simply be incompatible with p , as in (20), repeated here as (28):

- (28) Je suis en train de me brosser les dents. = (20)
 I am in midst of REFL brush.INF the.PL teeth
 ‘I’m brushing my teeth (so I can’t answer the phone).’
 ($p \cap q = 0$)

And in fact, the requirement can be weakened further still: p need not even be incompatible with q . This can be seen from the fact that in (29), q is something like “the children are safe”. In a subset of q worlds p holds, because some of the worlds in which the children are safe are worlds in which the children cross the street (safely).

- (29) Attention! Les enfants sont en train de traverser la rue.
 Watch.out the.PL children are in midst of cross.INF the street
 ‘Watch out! The children are crossing the street (there is
 imminent danger).’ (p \subset q)

The choice of q is predicted to be highly sensitive to context, and indeed the speaker might intend a value for q that is different from what the hearer presumes. Nonetheless, these examples show that the logical possibility where p is not the same as q and the ordering source of the CI is bouletic is in fact attested, since it is not possible to paraphrase these examples using any other of the logical possibilities listed in (26).

5.1.2 Accordant case: bouletic ordering source, $p = q$

Another logical possibility is that there is a bouletic ordering source and $p = q$; we will call this the accordant case. The question is whether the accordant case is attested. We can certainly come up with examples where a q equal to p can be chosen. For example, we could understand the bouletic CI in (30) to convey that the speaker wants to be speaking.

- (30) a. Je parle.
 I talk
 ‘I’m talking.’
 b. Je suis en train de parler.
 I am in midst of talk.INF
 ‘I’m talking (and I want to be talking).’ (p = q)

Likewise, in (31), the bouletic CI could be that the speaker wants the interlocutor’s sister to be sleeping.

- (31) a. Ta soeur dort.
 your sister sleeps
 ‘Your sister is sleeping’.
 b. Ta soeur est en train de dormir.
 your sister is in midst of sleep.INF
 ‘Your sister is sleeping (and I want her to be
 sleeping).’ (p = q)

However, in these examples it is possible to choose q differently and achieve more or less the same effect.¹ That is, in these examples, q could instead be some proposition that is conducive to p . So for instance, for (30) q could be the proposition that someone else is not speaking; for (31), q could be the proposition that the interlocutor does not disturb their sister or alternatively, simply that the interlocutor keeps quiet. Since this is the case, we cannot conclude that there is positive evidence for the accordant case; on the other hand, we see no evidence against it either.

5.2 Neutral cases: stereotypical ordering source

As we have said above, we propose that *êetd* always has a CI; in that sense, every instance of *êetd* is “expressive”. However, the neutral examples don’t have an expressive flavor because the meaning of the CI is not bouletic. We consider now the logical possibilities that have a stereotypical ordering source: first the case where $p = q$, and subsequently, the case where $p \neq q$.

5.2.1 Disambiguating case: stereotypical ordering source, $p = q$

If the CI’s ordering source is stereotypical and $p = q$, that means that the CI has exactly the same denotation as the at-issue meaning. This will allow us to make sense of the fact that it is odd to say (5a) out of the blue (repeated here as (32a); recall that it is also possible to say *il est en train de pleuvoir* in the discordant case, section 5.1.1), but that *êetd pleuvoir* is possible in other apparently non-expressive contexts, such as (32b). The question is how (32b) can be possible given that (32a) is impossible under a “neutral” interpretation.

- (32) a. #Il est en train de pleuvoir.
it is in midst of rain.INF
'It's raining.'
- b. Il doit être en train de pleuvoir.
it must be.INF in midst of rain.INF
'It must be raining.'
(ongoing-epistemic / *future-deontic)
- c. Il doit pleuvoir.
it must rain.INF
'It must be raining / rain.'
(ongoing-epistemic / future-deontic)

The example in (32b) is possible, we claim, exactly because the simple present version in (32c) is ambiguous. The reason for the ambiguity in this particular example is the modal *devoir*. Both an ongoing reading and a

¹ We thank an anonymous reviewer for bringing this point to our attention.

future-oriented reading are possible with the French simple present under modals. The ongoing reading is only compatible with an epistemic reading of *devoir* ('it must be true that...'), and the future-oriented reading is only compatible with a deontic reading ('someone requires that...'; Condoravdi, 2002, among many others). Thus, the simple present as in (32c) is ambiguous between an ongoing, epistemic reading: 'It must be true that it is raining' and a future-oriented, deontic reading: 'Someone requires that it rain.'

We propose that when the simple present cannot be disambiguated and the speaker wishes to express an ongoing reading, they can use *êtd*, using a stereotypical ordering source for its CI (which, recall, is the same as its at-issue meaning), to disambiguate. This possibility is not available for (32a), as in (32a), there is no need to disambiguate. Therefore the simple present, which lacks the CI but has the same at-issue meaning, is preferred on grounds of economy to *êtd*.

This disambiguation strategy is not limited to the complement of models, but is general to whenever the speaker needs to disambiguate an ongoing reading from another reading, as in (10) and (11), repeated below as (33) and (34):

- (33) Quand je rêve de moi, je cours. Je veux dire, je suis en
when I dream of me, I run I want say.INF I am in
train de courir. (= (10))
midst of run.INF
'When I dream of myself, I {run/am running}. I mean, I am
running.' (p = q)
- (34) Chaque enfant est en train de décorer son sapin. (= (11))
each child is in midst of decorate.INF his tree
'Each child is decorating their own Christmas tree.' (p = q)

5.2.2 Interpretive case: stereotypical ordering source, $p \neq q$

We also predict that another neutral case exists, namely one in which there is a stereotypical ordering source for the CI but p and q are not equal. This agrees very well with a reading that has been noted in previous literature on *êtd* as well as other progressives (though in the latter we would not expect q to be "hard-coded" into the semantics as we propose for *êtd*), namely the "interpretive" reading. The "interpretive" reading (Buysens 1968, König 1980, Kearns 2003, Martin 2006, e.g.), as in (35), has been noted as presenting an alternative way of (re)describing a particular eventuality. As shown in (36), when an overt description of the event (*Mary left*, e.g.) is given first, it has a different relationship to the following progressive sentence when the progressive sentence is understood as interpretive (36c), compared to when it is not (36d).

- (35) You are making a mistake.
= ‘In doing what you are currently doing, you are making a mistake.’
- (36) a. Mary left, making a mistake.
b. Mary left, smoking a cigarette.
c. By leaving, Mary is making a mistake.
d. #By leaving, Mary is smoking a cigarette.

Consider the sentences in (37). In our proposal, the propositional argument p of the at-issue meaning of the second sentence, is the alternative description of the event described by the first sentence. We propose that q , the propositional argument of the CI contributed by *êtd*, is *Pierre leave the meeting*. The CI of the second sentence thus echoes the description of the event given in the first sentence. The *êtd* sentence then conveys that something is going on—namely, that Pierre is making a mistake—while effectively presupposing that something else is going on—namely, that Pierre is leaving. Note that the simple present, though grammatical, does not get an interpretive reading, as shown in (37b); it can only have an ongoing reading if it does not have an interpretive reading, as shown in (37c).

- (37) a. Pierre quitte la réunion. Il est en train de faire
Pierre leaves the meeting he is in midst of make.INF
une erreur.
a mistake
‘Pierre is leaving the meeting. He is making a
mistake.’ (p ≠ q)
- b. #Pierre quitte la réunion. Il fait une erreur.
Pierre leaves the meeting he makes a mistake
‘Pierre is leaving the meeting. He is making a
mistake.’
- c. Pierre quitte la réunion. Il fume une cigarette.
Pierre leaves the meeting he smokes a cigarette
‘Pierre is leaving the meeting. He is smoking a
cigarette.’

The interpretive reading in (37) could be explained by using the bouletic ordering source option for the CI of *êtd*, since the speaker presumably has a negative attitude toward Pierre’s mistake (=she wants Pierre to be doing something else). However, it is possible to use positive-attitude lexical material, as we did above in example (13), to test whether the negative attitude is part of the meaning of the interpretive reading. If we do this, we

see that it is possible to have an interpretive reading with a non-ironic meaning, as in (38).

- (38) En faisant cette tournée, je suis en train de me rendre
 in doing this tour I am in midst of REFL render
 service moi-même.
 favor myself
 ‘In doing this tour, I am doing myself a favor.’

This indicates that it is possible for CI not to have a bouletic ordering source, but rather a stereotypical ordering source, in a case where *p* is not the same as *q*.

The speaker’s stereotypical ordering source gives a sense of how the speaker thinks the course of events will proceed from the current situation. Since a single person in a single situation can’t believe simultaneously that incompatible courses of events will happen, *p* and *q* are not allowed to be incompatible. (Note that this means that the possible relation between *p* and *q* is more restricted than with a bouletic ordering source.) However, *p* and *q* can still be non-identical.

6. Conclusion

In conclusion: we have proposed that there is only one *êtd*. The at-issue meaning of *êtd*, we have argued, is just an ongoing meaning, the same as the ongoing reading of the simple present. It has a modal conventional implicature with either a bouletic or a stereotypical ordering source. The following taxonomy of readings of *êtd* results:

- (39) Taxonomy of readings of *êtd*:
- a. bouletic ordering source in the CI
 - (i) $p \neq q$: ‘discordant’
 - (ii) $p = q$: ‘accordant’
 - b. stereotypical ordering source in the CI
 - (i) $p = q$: ‘disambiguating’
 - (ii) $p \neq q$: ‘interpretive’

We presented evidence for all of these logically possible cases. Three of the four cases were attested; the existence of accordant case examples is difficult to prove, but we found no evidence to the contrary. This account entails that the CI is always there, but that when it has a stereotypical ordering source, it is not “expressive” in Potts’ (2005) sense (good/bad). This makes it look as though the CI disappears. However, we know it is still there because *êtd* is not always felicitous in describing ongoing situations in out-of-the-blue contexts (e.g., example (5a), *#Il est en train de pleuvoir*,

‘it is raining’). We proposed that this is because *êetd* has the exact same at-issue meaning as the ongoing reading of the simple present. The simple present should be preferred unless the CI is needed to disambiguate (stereotypical ordering source, $p = q$) or to convey that there is another description of an already-described event (stereotypical ordering source, $p \neq q$).

This proposal raises a couple of intriguing questions as to the nature of CIs and of grammaticalization. If, as we have argued, *êetd* has a CI, it is an odd one according to Potts’ (2005) theory, because (i) CI meaning is supposed to take at-issue meaning as an argument, and our CI does not, and (ii) any word is supposed to express either at-issue or CI meaning but not both; our *êetd* does both. The issue in (i) could be resolved by positing a two-dimensional Predicate Modification (see also Morzycki 2009). However, (ii) can’t be resolved unless there are two heads involved in *êetd*. But since *êetd* isn’t grammaticalized as a progressive, it may well be that it is comprised of two meaningful heads; likely *être* ‘be.INF’ would carry the at-issue aspectual meaning, as French verbs generally do, while (*en*) *train* (*de*) would carry the CI. Given this idea, we wonder whether there might not be a correlation, among aspectual morphology, between lack of grammaticalization and the presence of a CI. That is, we wonder whether there are other non-grammaticalized aspects that carry both at-issue meaning and CIs, and conversely, whether there are any grammaticalized aspects that do the same.

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CHAPTER SEVEN

EVENT RELATED NOMINALS

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1. Introduction^{1,2}

As has been widely argued for in the literature, deverbal nominals fall into two categories, depending on whether they retain the event from their verbal base or not. The original observation is due to Chomsky (1970); see also Lees (1960), Marantz (1997), Borer (2003). For English *-ation* and *-ing* nominals (e.g., *destruction*, *examination*; *forming*, *examining*) and for zero-derived nominals (e.g., *form*, *exam*), this has led to distinguishing two classes of nominals: complex-event vs. result nominals (CENs/RNs–Grimshaw 1990) or Argument-Supporting nominals (AS-Ns, cf. (1)) vs. Referential nominals (R-Ns, cf. (2)–Borer 1999):

- (1)
 - a. the destruction of the city by the enemy
 - b. the examination of the students by the teacher
 - c. their building new quarters

- (2)
 - a. a complete destruction
 - b. a difficult exam
 - c. an impressive building

The nominals in (1) have an event interpretation (hence, Grimshaw's 1990 label of CENs). The eventive interpretation has been noted to correlate with various syntactic properties, as, for instance, the (possible) presence of temporal/aspectual modifiers.

- (3) a. They destroyed the city in two hours.
 b. the destruction *(of the city) in two hours

The pattern in (3b) also has another important property, which is the obligatory realization of the arguments of the verbal base (hence the term Argument Supporting nominals; cf., Borer 1999, 2003). This property is compulsory when the event structure is activated in the presence of event-related modification (see Grimshaw 1990, Borer 1999, 2003, Alexiadou 2001, among others). The correlation between the event interpretation and obligatory realization of argument structure has been an important point since Grimshaw (1990). The fact that both go hand in hand has been claimed in the literature to show that both are realized grammatically and that eventivity and arguments are inherited from the verbal and/or aspectual structure present with AS-Ns but are missing with R-Ns (the latter being simply derived from bare roots)—cf. Borer (2003); Alexiadou (2001); van Hout and Roeper (1998). The syntactic approaches to word formation represented by these scholars take eventivity in AS-Ns to be correlated with the projection of syntactic functional layers detectable through argument structure projection and aspectual modifiers. The source of the eventive interpretation is the presence of a verbal base upon which AS-Ns are built. Nominalizations may thus inherit verbal properties, when (and only when) they involve a verbal / aspectual structure.

The term ‘event’ (or ‘eventive’) nominals, however, is often the subject of some misunderstanding, or at least suffers from variable definitions depending on whether it is taken in the syntactic tradition where eventivity is correlated with particular structural properties, or from a (lexical-)semantic point of view where a much larger class of nominals would be considered as ‘eventive’.³ For instance, Grimshaw’s (1990) Simple Event nominals (SENs) fall into this class when semantically defined. Such nouns (e.g., *meeting*, *play*) are ‘semantically’ associated to an event interpretation but do not exhibit the common event related properties of AS-Ns described above. SENs cannot take typical verbal / temporal modifiers otherwise found with AS-Ns (even in cases where there is a related verb, with the relevant temporal-aspectual modifiers):

- (4) a. They met / played for two hours.
 b. the meeting / the play (*for two hours)

This suggests that SENs are not structurally derived from verbs, and hence if they involve an event, it cannot be inherited from a VP. Nevertheless, they do have an event interpretation which, it has been claimed in the

literature, cf., Haas et al. (2008), can be tested in the context of, e.g. the *take place* predicate. *Take place* requires an eventive subject, and is compatible with both AS-Ns and SENs subjects, while rejecting R-Ns, as expected:

- (5) a. The destruction took place at noon. (AS-Ns)
 b. The movie / meeting took place at noon. (SENs)
 c. *The table / form took place at noon. (R-Ns)

Another problematic group of nominalizations is also often associated with an event interpretation, namely *-er* nominals (see Rappaport Hovav and Levin 1992, Alexiadou and Schäfer 2010, Roy and Soare (to appear)). *-Er* nominals differ from AS-Ns in that they denote individuals (e.g., *driver, teacher, scuba-diver*). However, recent works by Alexiadou and Schäfer 2010 and Roy and Soare (to appear) have shown that some of them at least are interpreted in association with an actual eventuality. Independently of the typology one accepts (whether retaining three groups: episodic / dispositional / instruments, as in Roy and Soare (to appear) or just two groups based on the episodic / dispositional contrast alone, as in Alexiadou and Schäfer (2010)), there is a common agreement that some *-er* nominals at least relate to particular events, arguably inherited from their verbal base again. For instance, as commonly noted for English, phrasal *-er* nominals as in (6a), entail that the individual denoted by the N has taken part in the action expressed by the related verb (i.e., saved lives); whereas such entailment does not exist with the compound nominals as in (6b). One could hypothesize that the source of the event-related meaning for (6a) resides in the presence of an underlying event, plausibly derived from a full verbal phrase.

- (6) a. a saver of lives (has saved lives)
 b. a life-saver (hasn't necessarily saved lives)

However, as for SENs, 'eventive' *-er* nominals do not take event modifiers otherwise possible with AS-Ns (compare (7) with (3) above):

- (7) a. He drove the truck (for two hours).
 b. the driver of the truck (*for two hours)

Evidently, while there is a strong sense in which both AS-Ns and episodic *-er* nominals refer to events or are related to an event interpretation, they do not do so in the same way, as the diagnostics for eventivity clearly

indicate. These facts further illustrate why in the present-day literature on nominalizations there is no consensus on the definition of eventive nominals and their variable properties.

The aim of this paper is to gain some understanding into the semantic relationship derived nominals entertain with their verbal base, and to provide a principled analysis of AS-Ns, SENs and (eventive) *-er* nominals that accounts for the different flavors in which the interpretation of a deverbal nominal is said to be ‘event-related’. We offer an analysis that bears crucially on a difference between strong/grammatical eventuality and lexical/conceptual eventuality cast in terms of a semantic type difference between entity-denoting vs. event-denoting nominals.

This paper is organized as follows. Section 2 deals with ‘event’ nominals, i.e., AS-Ns and SENs, providing a summary of the literature that will serve as a starting base for our discussion, and argues for a first distinction between strong/grammatical events and lexical/conceptual events. Section 3 turns to a detailed discussion of the properties of eventive *-er* nominals, which manifest event properties in a different way from event-denoting nominals. We first show that these nominals are event-related in a strong/grammatical sense, and that a unified structural account is warranted, for event-denoting and for *-er* AS-Ns as well. We proceed in section 4 to a type semantic analysis of derived nominals that captures the differences between individual nominals and event nominals and the interaction of semantic types with the grammatical vs. conceptual events. In section 5, we extend our proposal to include SENs, and then conclude in section 6.

2. Event nominals

2.1. AS-nominals

The literature on deverbal nominalizations starting with Lees (1960); Chomsky (1970); Grimshaw (1990) pays special attention to the question of their ambiguity. Taking, as an illustration, *-ation* nominals (e.g., *examination, destruction, manifestation*), they may denote either an event or an entity (i.e., object), which may but must not be the result of an event. As stated above, this is commonly expressed in the literature under the form of the CENs / RNs distinction (initially proposed by Grimshaw 1990), and is implemented broadly in terms of a structural ambiguity, as we will see below.

An overview of the properties distinguishing CENs from RNs is summarized in Table 1. Given the observed correlation between argument

structure and eventive interpretation, in recent works on nominalizations (cf. Borer 1999, 2003; Alexiadou 2001, 2010a,b; Kornfilt and Whitman 2011, among others) the distinction has been restated in terms of Argument Supporting (or AS)-nominals and Referential (or R)-nominals (terminology from Borer 1999, 2003). The properties in the left column, including obligatory realization of the (internal) arguments and modification with aspectual modifiers, are generally seen as a hallmark for eventivity inside nominals. The properties are exemplified in (8) for AS-Ns and (9) for R-Ns.

	AS-Ns	R-Ns
(i)	event reading	no event reading
(ii)	obligatory arguments	arguments not obligatory
(iii)	compatible with aspectual modifiers like <i>in three hours</i>	not compatible with aspectual modifiers
(iv)	<i>constant, frequent</i> with the singular	<i>constant, frequent</i> possible only with the plural
(v)	<i>by</i> -phrase is an argument	<i>by</i> -phrase is not an argument

Table 1: properties of AS-nominals and R-nominals

- (8) AS-Ns
- a. the examination of the students by the teachers
 - b. the examination *(of the students) (by the teachers) (in three hours)
 - c. the (frequent) examination of the students by the teachers
- (9) R-Ns
- a. the form; the exam
 - b. the exam (*by the teachers) (*in three hours)
 - c. the frequent exam*(s)

As illustrated above in (8), in presence of event-related modifiers like *frequent, constant* adjectives or *in/for*-PPs, AS-Ns obligatorily realize their argument structure. Removing the arguments in the presence of the modifiers would give rise to ungrammaticality. This is not the case with R-Ns, which are noneventive and do not have arguments (9b). *Frequent/constant* modification is possible with R-Ns but in the plural

(9c), which gives rise to an iterative reading only (“frequently giving/taking exams”; compare with (8c)). *In/for*-PPs are impossible.

Furthermore, R-Ns can be selected by predicates that require an entity noun and not an eventive noun:

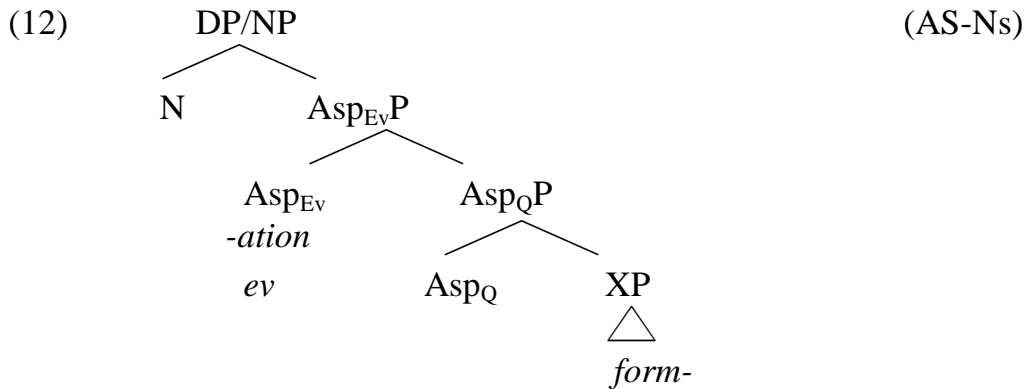
- (10) a. *The examination of the patients was on the table.
b. The exam was on the table.

For ambiguous nominals, such as *assignment*, *painting*, *building*, *manifestation*, the compatibility with *be on the table* excludes the presence of arguments:

- (11) a. *The assignment of the tasks to the participants was on the table.
b. The assignment was on the table.

The literature offers different views on the AS-N / R-N ambiguity. Lexicalist approaches take the ambiguity as being stored in lexical entries, and consequently assume the existence of *assignment*_{-AS-N} / *assignment*_{-R-N} pairs. This direction has been developed since Halle’s (1973) lexical Word Formation Rules, and continued in Booij (1977), Aronoff (1976), Di Sciullo and Williams (1987), among many others. By opposition, structural/syntactic approaches reject the idea of rampant ambiguity in the lexicon, and see the AS-N/R-N contrast as corresponding to a systematic structural difference in the form of the nominalization. The latter position is argued for by Marantz (1997), Borer (1999), Alexiadou (2001), among others, which endorse a syntactic approach to word formation. Building on Grimshaw’s criteria, it has been argued in this tradition that AS-Ns are derived on the basis of a full structure including verbal / aspectual layers; while R-Ns are simple, root-derived nominals. Syntactic approaches to deverbal nominals formation thus assume that the correlation between the eventive interpretation and the obligatory argument structure must be implemented by assigning different structural representations to the two classes of nominals. The correlation with the argument realization is therefore not accidental but derives from the internal syntactic properties of the relevant nominal expressions. The projection of argument structure inside deverbal nominals is also to be taken as a property of the verbal layers. These different layers have received different labels throughout the literature, from “Event Phrase” (van Hout and Roeper 1998), to different flavors of AspP (Borer 1999, 2003, 2005; Alexiadou et al. 2010); and different executions have been proposed. For instance, Borer (1999, 2003,

2005), implements the correlation between event structure and argument structure by proposing that arguments are introduced by functional heads, one of which is also responsible for introducing the event variable. In the structure of AS-Ns in (12) below, Asp_{Ev} (standing for Aspect of Event) thus introduces the external argument and Asp_Q (standing for Aspect of Quantity) the internal one (which is likewise severed from the root). Asp_{Ev} is also responsible for introducing the event variable ev . In this paper, we will by and large adopt Borer’s framework; but see Alexiadou (2001); Van Hout and Roeper (1998) among others for alternative implementations.



R-nominals in (13), in turn, are built directly from a root. They lack verbal structure and, therefore, the event variable introduced by Asp_{Ev} .



Recent work on AS-Ns denoting processes have, thus, reached the conclusion that eventivity in these nominals is structurally built-in, and that the projection of argument structure is also a consequence of their functional structure. The syntactic approaches to deverbal nominals formation share the idea that eventivity is encoded in the syntax. Therefore, we will refer to these cases as cases of “grammatical eventivity”, in which the presence of the event is structure-related and results from the presence of dedicated verbal functional projections in the structure of the nominal, identifiable by aspectual and manner modification. We will call this structurally built-up eventivity ‘strong/grammatical’ eventivity.

2.2. Simple Event nominals

In her original typology of deverbal nominals, Grimshaw (1990) distinguished not two, but three classes of deverbal nominals. Besides CENs and RNs, (here replaced by AS-Ns and R-Ns, respectively), her taxonomy includes a third class of so-called *Simple Event Nominals* (SENs). Nominals in the SENs class also denote events as they can combine with predicates like *take place*, *last x time* and *be interrupted* that take an event as a subject (cf. Haas et al. 2008) (14). According to this test, they pattern with AS-Ns (15) rather than R-Ns (16), leading many current researchers to class them with ‘event’ nominals:

- (14) a. The concert/ the movie/ the game took place at nine. (SENs)
 b. The concert / the movie/ the game lasted three hours.
 c. The concert/ the movie/ the game has been interrupted.
- (15) a. The examination of the papers by the committee took place today at 5pm. (AS-Ns)
 b. The examination of the papers by the committee lasted three hours.
 c. The examination of the papers by the committee has been interrupted.
- (16) a. *The paper/ table took place yesterday. (R-Ns)
 b. *The paper/ table lasted three hours.⁴
 c. *The paper/ table has been interrupted.

SENs also pattern with AS-Ns in being satisfactory in the *during the N PP* construction which calls for a temporal extension:

- (17) a. during the movie/concert/game (SENs)
 b. during the examination of the paper by the committee (AS-Ns)
 c. *during the paper/table (R-Ns)

However, while the class of SENs represented by *concert*, *movie*, *game* in (14) above, shares with AS-Ns the property of being eventive (in a way to be defined later), they clearly do not necessarily project argument structure. Incidentally, it turns out that, as opposed to AS-Ns (and R-Ns for that matter) SENs may, but need not to, be derived from a verbal base (with or without derivational morphology) (e.g. *a movie*, *a concert*, *a game* vs. *a meeting*, *an attack*). SENs are thus eventive by the semantic tests above⁵, but not in the way AS-Ns are; i.e., presumably not in the

strong/grammatical sense defined in the previous section. Recall that standard syntactic views on AS-Ns assume that what we call a ‘grammatical event’ must be contributed by an underlying verbal base (or VP), and is identified by the standard tests summarized in Table 1. SENs, which do not require a verbal base, by assumption, cannot involve a grammatical event.

Crucially, and as expected, SENs are not compatible with aspectual PP modifiers (*in/for* PP), and in that respect pattern with R-Ns (20) rather than AS-Ns (19), independently of the existence of a related verb (18a) or not (18b).⁶

- (18) a. the meeting/attack (*for three hours) (SENs)
 b. the concert/movie/boycott (*for three hours/months)
- (19) a. The president met with the Prime Minister (for three hours).
 b. the meeting of the president with the Prime Minister (for three hours) (AS-Ns)
- (20) the paper/table (*for three hours) (R-Ns)

Further properties distinguish SENs from AS-Ns. Recall from Table 1 that R-Ns are compatible with frequency modifiers when in the plural only, while AS-Ns accept frequency modifiers in the singular. As (21) shows, in that respect again, SENs pattern with R-Ns in (9c), and not with AS-Ns in (8c).

- (21) the frequent concert*(s); the frequent movie*(s) (SENs)

In general there is no particular restriction on plurality and quantification with SENs (as for R-Ns and other nominals: *three exams; many dogs*); while certain restrictions on quantifiers, numerals and determiners, as illustrated in (22b), are commonly reported on AS-Ns (see Grimshaw 1990, Snyder 1998).⁷

- (22) a. many concerts; three movies (SENs)
 b. *several/two/these elections of John by the department (AS-Ns)

The count properties of SENs can be seen as a result of their being event sortals (cf. Bennett 1988, Snyder 1998). The fact that SENs can be counted is correlated to the fact that they can be individuated, unlike AS-Ns. The contrast is visible in existential constructions, which require an

individuated N, and accept SENs but reject AS-Ns (cf. also Mourelatos 1978):

- (23) a. There is a movie/ are three movies starting at 5.
 b. *There is a destruction/ are three destructions of the city by the enemy starting at 5.

In sum, SENs have heterogeneous properties, sometimes similar to those of AS-Ns and sometimes not (and hence making them similar to R-Ns and other non-derived nominals). In view of these apparently contradictory properties, SENs have always been rather problematic and left aside in many recent accounts. If we follow a structural approach, as discussed earlier, and if we assume that both the projection of argument structure and the event interpretation depends on the presence of a verbal(/aspectual) structure, SENs do not involve a ‘grammatical event’, structurally built up in the nominal, in the sense defined in the previous section. We must conclude that there is another possible source of eventivity inside nominals, which is not structure-related. Nominals can refer to events in the absence of verbal bases and therefore of any verbal layers. We will name this kind of eventivity, which is not inherited from a base predicate, a weak/conceptual(or lexical) eventivity.

2.3. Interim conclusion

In order to describe event-related nominals, a first distinction is needed between strong/grammatical eventivity and weak/conceptual eventivity. Among the tests commonly used to identify an underlying event, or eventuality more generally, inside derived nominals, some pertain to the grammatical event, others to the conceptual/lexical event. The tests are split as indicated in Table 2. This understanding of the tests turns crucial to apprehend the properties of SENs specifically, and how they differ from AS-Ns. (More on this in Section 5).

Tests for underlying eventuality	Strong/ Grammatical eventuality	Weak/ Conceptual eventuality
(i) subject of <i>be on the table</i>	-	-
(ii) subject of <i>take place, be interrupted</i>	+	+
(iii) <i>during the N</i>	+	+
(iv) obligatory arguments	+	-
(v) <i>constant, frequent</i> possible with the singular	+	-
(vi) compatible with aspectual modifiers like <i>in/for three hours</i>	+	-

Table 2: Tests for strong/grammatical eventuality vs. weak/conceptual eventuality

3. Further issue: individual nominals

3.1. Eventive *-er* nominals

-Er derived nominals (often called ‘Agent’-nominals) present a further difficulty to an already complex notion of eventuality inside nominals. On the one hand, they denote individuals (rather than events); but on the other hand they have a strong/grammatical eventuality that can be linked to an AS-Ns structure (Alexiadou & Schäfer 2010; Roy and Soare (to appear)).

Nominals denoting participants in an eventuality have been characterized in the literature as being sensitive to a distinction between eventive and noneventive, on the basis of pairs like *saver of lives / life-saver* and *mower of the lawn / lawn-mower* (Rappaport Hovav and Levin 1992, Van Hout and Roeper 1998, among others). Only in the first case is the participant denoted by the nominal entailed to be involved in an actual event; no such entailment arises with the compound forms. Animacy plays a role here, as instrument *-er* nominals (*grinder, blender*) never involve a participation in an event (cf., Rappaport Hovav and Levin 1992; Roy and Soare (to appear)).

As argued in Roy and Soare (to appear), when interpreted as eventive, animate *-er* nominals have properties of strong/grammatical events rather than weak/conceptual events. This can be shown by the tests (iv) and (v) in Table 2, which discriminate between the two types of eventualities. With

respect to these two tests (and we will come back to test (vi) later), eventive *-er* Ns pattern with AS-Ns (and not SENs). As argued by Rappaport Hovav and Levin, the eventive interpretation, which is highlighted by the presence of frequency modifiers, correlates with the obligatory realization of arguments. *-Er* nominals can take frequency modifiers, but only when they realize their arguments.⁸ In addition, frequency adjectives are possible with the singular (24b). Compare with AS-Ns in (8c) above.

- (24) a. the constant defenders *(of human rights)
 b. this frequent consumer *(of tobacco)

On the basis of the similarities between (24) and (8c), a unified account for eventive *-er* Ns and AS-Ns, in terms of strong/grammatical eventuality, seems plausible. Recent works have argued for such an account, but assume further distinctions within the class of eventive *-er* Ns - cf. Alexiadou and Schäfer (2010), Roy and Soare (to appear), in particular, in terms of the episodic/dispositional distinction. According to Alexiadou and Schäfer (2010), dispositional *-er* nominals have event-related properties and share the same syntactic structure as episodic *-er* nominals. Both are eventive and involve verb-like internal structure, i.e., Aspect and Voice heads (in a standard Distributed Morphology approach), but they differ in terms of aspectual specifications. Episodic and dispositional meanings are, in this approach, two flavors of an aspectual head necessarily present in eventive nominals.

- (25) a. Dispositional *-er* Ns
 i. fire-fighter, live-saver, baker, teacher
 (educated but not necessarily experienced)
 ii. $[_{NP} \text{-er} [_{AspP-DISPO} [_{VoiceP} x [_{vP} \text{ev} [_{RootP} \checkmark]]]]]]$
 b. Episodic *-er* Ns
 i. saver of lives, fighter of the fire
 (necessarily experienced in action)
 ii. $[_{NP} \text{-er} [_{AspP-EPISO} [_{VoiceP} x [_{vP} \text{ev} [_{RootP} \checkmark]]]]]]$

For Roy and Soare (to appear), dispositional and episodic *-er* Ns involve a full verbal structure akin to the one found in AS-Ns, and differ by the type of quantification on the event variable, namely existential vs. generic:

- (26) a. Dispositional *-er* Ns
 GEN $[_{NP} N [_{AspEvP} \text{-er} [_{AspEv'} AspEv \text{ev} [_{AspQP} [_{RootP} \checkmark]]]]]]$

b. Episodic *-er* Ns
$$\exists [_{NP} N [_{AspEvP} -er [_{AspEv} AspEv ev [_{AspQP} [_{RootP} \surd]]]]]]$$

They show, on the basis of French data, that both episodic and dispositional Ns allow event-related adjectival modification, which can be of two types; *frequency* adjectives, allowed by episodic *-er* Ns only, and *big/happy* adjectives with an event-related meaning (cf., Larson 1998), allowed by both dispositional and episodic *-er* Ns. The interpretive contrast between episodic and dispositional Ns comes from their internal argument, either specific or nonspecific, leading to a particular vs. generic underlying eventuality. For further details regarding adjectival modification, and their event-related meanings in particular, as well as the correlation between event type and nominal meanings, we refer the reader to Roy and Soare (to appear).

(27) Dispositional *-er* Ns

- a. *Nous avons interviewé un vendeur fréquent de voitures/ les
we have interviewed a seller frequent of cars the
 consommateurs fréquents de drogue.
consumers frequent of drug
 "We have interviewed a frequent car-dealer/ the frequent drug users."
- b. Nous avons interviewé un petit vendeur de voitures/ les
we have interviewed a small dealer of cars the
 gros consommateurs de drogue.
big consumers of drugs
 "We have interviewed a small car-dealer/ the big drug users."

(28) Episodic *-er* Ns

- a. Un consommateur fréquent de plusieurs drogues douces/ de
a consumer frequent of several drugs soft of
 LSD a témoigné au procès.
LSD has testified at.the trial
 "A frequent user of several soft drugs/ of LSD testified in court."
- b. Un heureux/ gros consommateur de plusieurs drogues douces/
a happy big user of several drugs soft
 de LSD a témoigné au procès.
of LSD has testified at.the trial
 "A happy/big user of several soft drugs/of LSD testified in court."

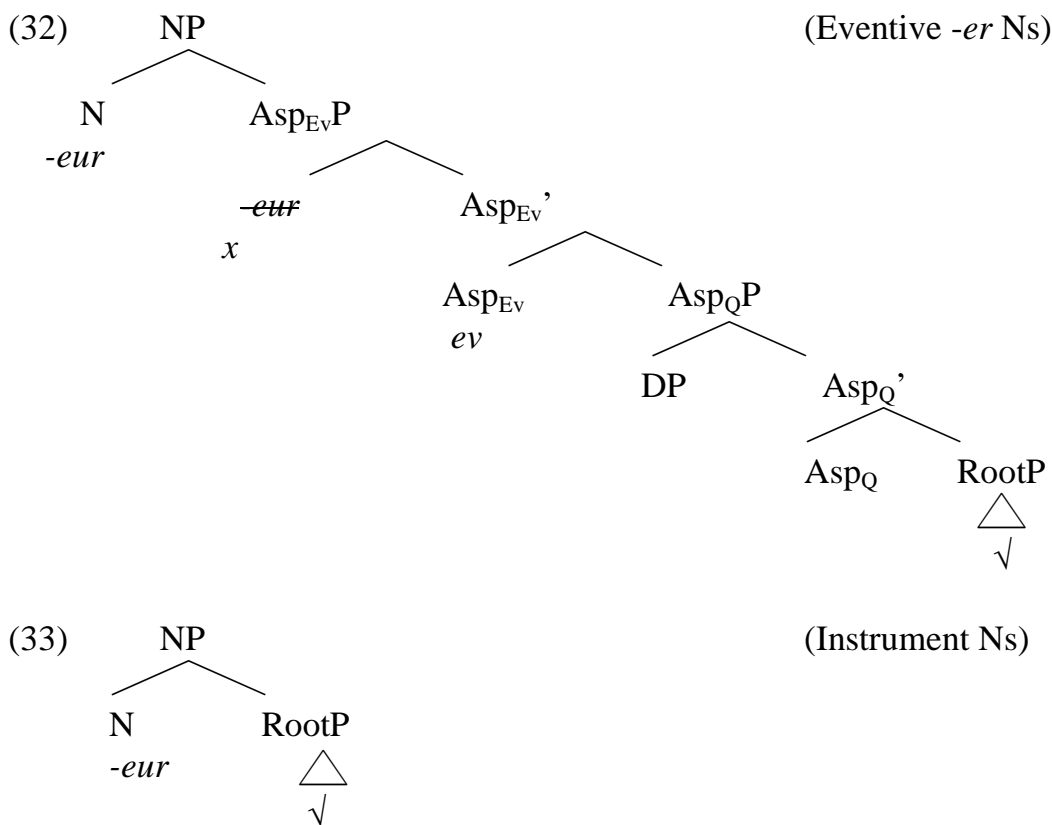
Crucially, no event-related properties can be observed in the case of instrument *-eur* nominals. Event-related meanings of adjectives are never allowed. Instruments differ in a clear way from dispositional Ns in (27).

- (29) Instruments⁹
- a. *Un broyeur fréquent nous serait utile.
a grinder frequent us would.be useful
 "A frequent grinder would be useful to us."
- b. *Un gros broyeur nous serait utile.
a big grinder us would.be useful
 "A big grinder would be useful to us."

Moreover, instruments never project true arguments. In particular, definite-specific objects are always ruled out, which we take to indicate that instruments do not take arguments (30) and that when they appear with a *de*-phrase, the latter is a mere modifier (31). The nonargumental status of *de*-phrases with instruments is further supported by the possibility of substituting them with a purpose *à*-phrase adjunct (never found with true arguments).

- (30) a. L'aspirateur (*de la poussière) n'a pas bien fonctionné.
the.aspirator of the dust neg.has not well functioned
 "The vacuum-cleaner (of the dust) didn't work well"
- b. Le photocopieur (*de l'article) a été très efficace.
the photocopier of the.paper has been very efficient
 "The copy-machine (of the paper) has been very efficient"
- (31) a. broyeur de végétaux vs. dresseur de lions
blender of vegetables tamer of lions
 "vegetable blender" "lion tamer"
- b. broyeur à végétaux vs. *dresseur à lions
blender at/to vegetables tamer at/to lions
 "vegetable blender"

Accordingly, instrument *-er* Ns must be treated on a par with R-Ns, as simple, root-derived nominals. A structurally built-in grammatical event must be assumed in the two classes of eventive (animate) *-eur* Ns, which must share the structure of AS-Ns in (12). Instrument Ns pattern with root-derived nominals with which they share the structure (13). Accordingly, they have the following structure, respectively:



However, if episodic/dispositional *-er* nominals are a form of AS-Ns, involving a case of strong/grammatical event, some differences between process-denoting AS-Ns and individual-denoting eventive *-er* Ns need to be addressed. We turn to this issue below.

3.2. Some unexplained differences

The presence of a grammatical event inside *-er* Ns has often been questioned and is the subject of some controversies. Proponents of the noneventive view, invoke two types of evidence that they take as arguing against a unified treatment of process AS-Ns and individual *-er* Ns. Baker and Vinokurova (2009) argue on the basis of the grammaticality of adverbials in pairs like (34) for separating process AS-Ns and *-er* Ns, assigning a ‘purely nominal’ status to the latter, which, according to them, are deprived of any internal verbal structure (even in languages in which they are able to assign Accusative case to their object, like Sakha). Absence of adverbial modification is not a reliable test for absence of grammatical events, however, as adverbs are also precluded with many process AS-Ns (even in cases where they are semantically compatible with the base verb) (35).

- (34) a. finding the wallet quickly
 b. *the finder of the wallet quickly
- (35) a. the enemy found/destroyed the city quickly
 b. the finding/destruction of the city by the enemy (*quickly)

Another piece of evidence taken to argue against a unified treatment of process As-Ns and *-er* Ns concerns the test (vi) in Table 2: eventive *-er* Ns never allow for aspectual PP modifications typically found with process-denoting AS-Ns. This contrast is taken by Borer (2012), for instance, to suggest the purely nominal (i.e. not verbal based) character of *-er* Ns altogether.

- (36) a. le domptage des chiens (pendant des années)
the taming of.the dogs for many years
 b. la vente du chien (en cinq minutes)
the sale of.the dog in five minutes
- (37) a. le dompteur des chiens (*pendant des années)
the tamer of.the dogs for many years
 b. le vendeur du chien (*en cinq minutes)
the seller of.the dog in five minutes

This contrast was originally noted for Greek by Alexiadou et al. (2000) (and reported in Alexiadou 2001) and taken as an indication of a diminished verbal character for *-er* nominals, even in their eventive meaning.

- (38) a. *i damastes ton fotonion mesa se/gia enan eona
the tamers the-gen photons within for a century
 b. *o katharistis tu ktiriu epi ena mina telika apolithike
the cleaner the-gen building for a month finally got.fired

Alexiadou et al. (2000) suggested that an explanation for the ungrammaticality of aspectual PPs would rely on the fact that *-er* Ns lack an Asp(ectual) projection, which would rule out adverbial modification across the board—and manner modification can only be spelled out as an adjective. This in turn, as also suggested by Alexiadou (2001), relates to the semantics of *-er* nominals, which denote individuals, while process nominals denote events. The difference is, thus, expected to the extent that aspect is relevant for processes and not for individuals. However, a precise

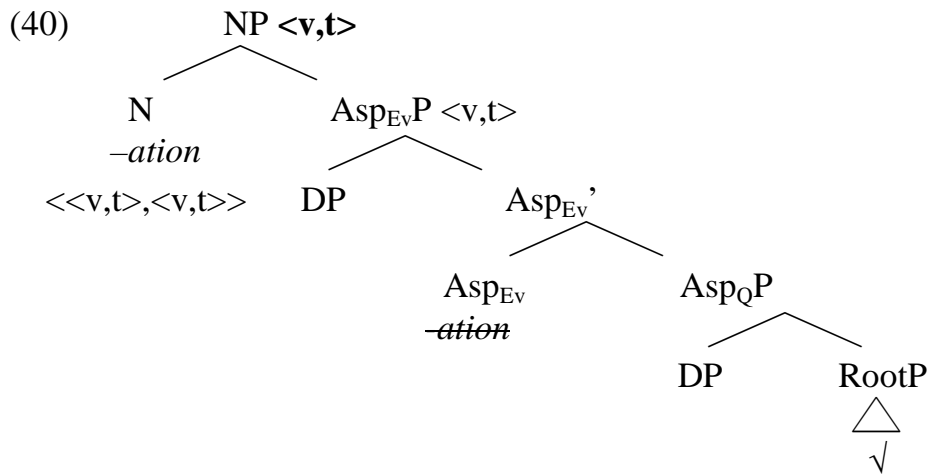
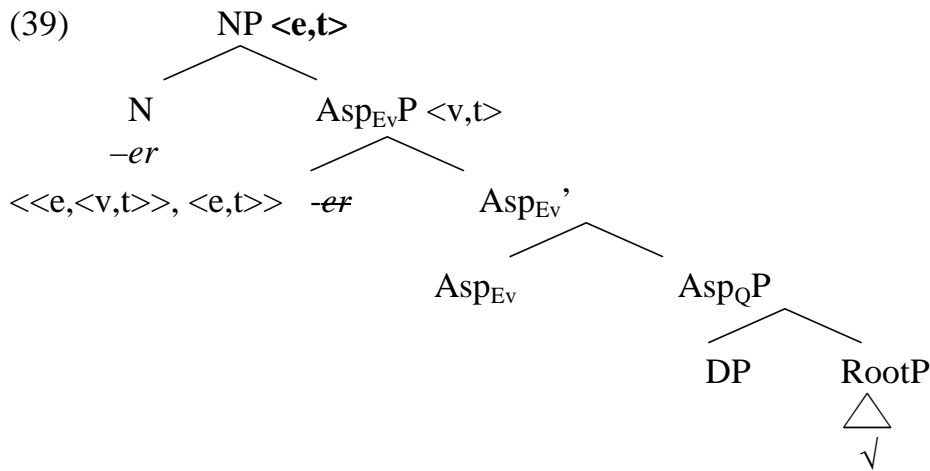
implementation of the difference has never been proposed. In our view, and since we accept a split between eventive and noneventive (i.e., instrument) *-er* Ns, the issue remains to understand the ban on aspectual PPs with individual Ns, as they involve a strong/grammatical event. The properties of eventive *-er* Ns are the combined result, as we shall argue below, of their involving both a grammatical/structurally built-in event and an individual variable. We will turn to this account in the next section.

4. Event nominals and semantic types

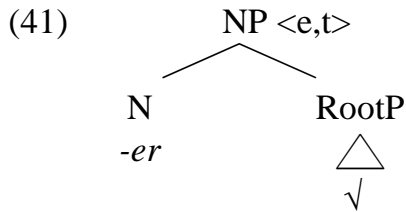
4.1. Event vs. individual argument

One fundamental difference between eventive *-er* Ns and process AS-Ns that, we will argue, has a major bearing on their contrastive properties, concerns their denotations. Evidently, on the one hand *-er* Ns denote individuals (*the driver* = the person who drives), whereas on the other hand process AS-Ns denote events properly speaking (*the driving of the car* = the event of driving the car). The difference is associated to the semantic properties of the nominal suffixes themselves (*-er* vs. *-ation*, *-ing*, etc.), and has structural consequences. As argued in Roy and Soare (to appear), the nominalizing suffix *-er*, which picks out an individual, is assumed to realize the external argument (i.e., occupies the specifier of $\text{Asp}_{\text{Ev}}\text{P}$; cf., (32) above).¹⁰ Following Borer (1999, 2003), the nominalizing suffix *-ation*, for instance, which picks out an event, is the realization of the aspectual head Asp_{Ev} responsible for introducing an eventuality. Hence, even though eventive *-er* Ns and process AS-Ns share the same internal structural frame (that of AS-Ns rather than root derived R-Ns), the semantic difference in their denotation is expressed structurally as well. Cf. the representations in (32) vs. (12).

We propose that the two types of nominals correspond to a semantic difference between nouns of individuals and nouns of events. Assuming that nominalized constructs are NPs, and that NPs are predicative by nature (while referentiality would require a DP layer), we claim that the former take an individual argument, hence are of type $\langle e, t \rangle$ (39); whereas the latter take an event argument, hence are of type $\langle v, t \rangle$ (40).¹¹



For process AS-Ns, type <v,t>, the outcome of the nominalization is a (nominal) predicate of events (40). The event semantics is introduced by the Asp_{Ev} phrase complement of N°. As with AS-Ns, Asp_{Ev} also introduces the event component in eventive *-er* Ns (39); however, both differ in the semantics of their nominalizing suffix and hence the interpretation of their resulting nominalization. The individual reading in (39) leads to the participant/agent interpretation as often characterized. Importantly, the source of the eventive interpretation in both (eventive) *-er* Ns and process AS-Ns is the presence of the event variable associated with Asp_{Ev}. Both *-ation* and (eventive) *-er* suffixes take constituents of type <v,t> as argument. Other *-er* nominals, i.e. instruments (see Roy and Soare (to appear)), are noneventive and do not involve an event variable at all. In that case, we will assume a homophonous *-er* suffix that is noneventive and takes a bare root as complement; the resulting nominalization is consequently of type <e,t> only:



The important point here is that both process AS-Ns and eventive *-er* nominals involve an event variable, and hence share a strong/grammatical eventuality interpretation. They only differ in the type of the outcome nominal. We claim in the rest of this section that this difference alone plays a crucial role in explaining the compatibility / incompatibility of the two sorts of eventive nominals (<e,t> vs. <v,t>) with event-related modifiers, namely aspectual PPs. The relevant data have been presented above and will now be discussed.

4.2. Locality of Predicate Modification

The puzzling difference between AS-Ns and eventive *-er* nominals concerning temporal/aspectual adjunct modifiers, has sometimes been taken as evidence that *-er* Ns are never eventive. We argue instead that they mark the type difference between <e,t> and <v,t> nominals, rather than the absence of underlying eventuality itself.

Temporal and aspectual event modifiers are structurally adjuncts. We assume that they combine with the nominal they modify via the rule of Predicate Modification (PM) stated in Heim and Kratzer (1998: 65).

(42) Predicate Modification

If α is a branching node, $\{\beta, \gamma\}$ is the set of α 's daughters, and β and γ are both in $D_{\langle e,t \rangle}$, then
 $\alpha = \lambda x \in D_e . \beta(x) = \gamma(x) = 1$.

PM is a conjunction operation. PM amounts to ‘intersective modification’ (i.e., Conjunctive composition) and captures the intersective reading of predicate modifiers:

(43) city in Texas

- a. $\lambda x \in D_e . \text{city}(x) = \text{in Texas}(x) = 1$
- b. $\lambda x \in D_e . x \text{ is a city and } x \text{ is in Texas}$

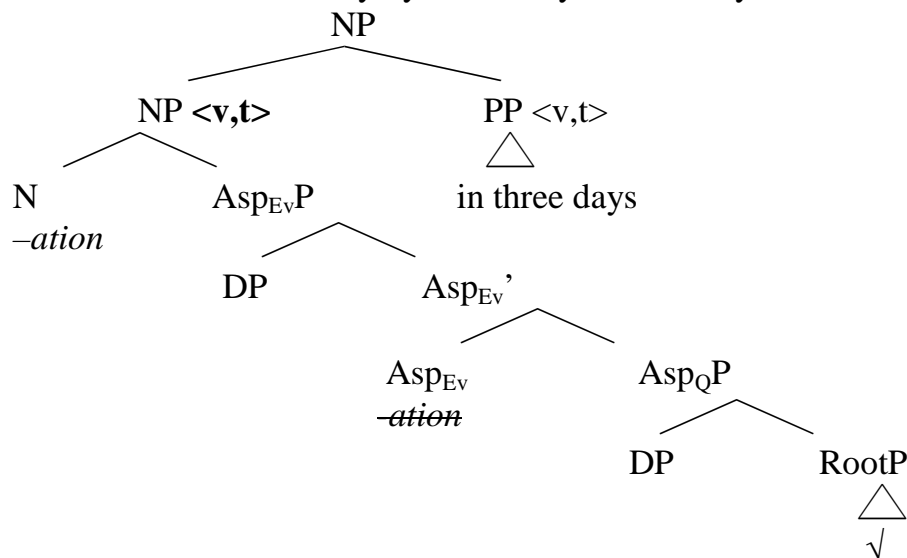
PM predicts that the intersective reading of an adjunct modifier and the nominal is only possible at the level where they merge. Importantly,

however, PM is only applicable when the two constituents β and γ are of the same semantic type. In their original proposal, both the β and γ elements are of type $\langle e,t \rangle$ (for predicates of individuals). Here, however, we extend the system to include a type difference between predicates of events, type $\langle v,t \rangle$ and predicates of individuals, type $\langle e,t \rangle$. True to the basic principle, PM is only possible between two expressions of the same $\langle v,t \rangle$ or $\langle e,t \rangle$ type.

If modifiers are adjoined at the $\text{Asp}_{\text{Ev}}\text{P}$ level (i.e., associated to the underlying grammatical eventuality; cf. (39)-(40)), PM should be applicable in both eventive *-er* Ns and AS-Ns alike, and both classes of nominals should be equally compatible with the relevant aspectual PPs. The event modifying PPs are possible with AS-Ns but not with *-er* nominals, however. This suggests that the nominal type plays a role in allowing PM, and consequently that PM takes place at a level where the distinction is expressed. Concretely, it means, we propose, that adjunction takes place at the NP level, i.e. “after” nominalization rather than before nominalization.

The ban on aspectual PPs can be explained solely on the basis of the type difference between eventive nominals that take individuals or events. The basic intuition is that *driver* (type $\langle e,t \rangle$) is not compatible with *for two hours* modifiers (type $\langle v,t \rangle$) simply because it is a predicate of individuals and not of events. With process AS-Ns, the type of the PP modifier matches the type of the nominal and the rule of compositionality can be applied as in (44b).

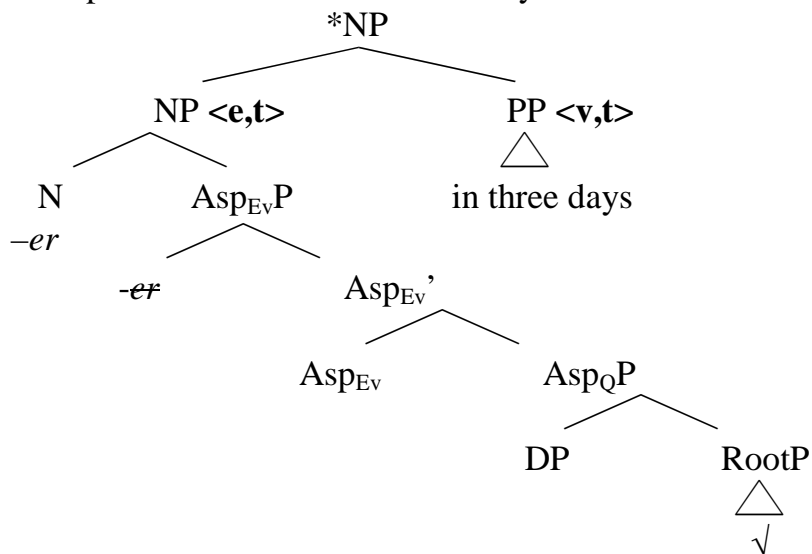
- (44) a. the destruction of the city by the enemy in three days
 b.



While for eventive *-er* Ns, the type of the event modifying PP mismatches that of the nominal, which prevents PM from deriving the compositional meaning of the nominal complex:

(45) a. *the painter of the room in three days

b.



By definition, PM is a local compositional rule. Aspectual PPs can only be interpreted intersectively with respect to the predicate they immediately modify. Since aspectual PPs can only be interpreted intersectively with respect to the eventuality (and only the eventuality) they are directly combined with, structurally, it must correspond to the eventuality introduced by the functional projection they are directly adjoined to. Hence, modifiers adjoined at the NP level are interpreted intersectively with NP. This is only possible with AS-Ns: aspectual PPs are intersective with the noun:

(46) the destruction of the city by the enemy in 3 days

a. $\lambda e \in D_v. \text{destruction of the city by the enemy } (e) = \text{in 3 days } (e) = 1$

b. $\lambda e \in D_v. e \text{ is a destruction of the city by the enemy and } e \text{ is (completed) in 3 days.}^{12}$

As already discussed, this is excluded with eventive *-er* Ns because of type mismatch. If we wanted to adjoin an aspectual PP in the frame in (44), adjunction (and PM) could only take place at the $\text{Asp}_{\text{Ev}}\text{P}$ level (due to the type constraints). This situation has, however, one important consequence for event nominals and for the understanding of how eventive *-er* Ns and process AS-Ns differ in their respective interpretation, even

though both involve an underlying grammatical eventuality. Very clear predictions are made in terms of interpretation of the adjuncts: the aspectual PPs can only be interpreted intersectively with respect to Asp_{Ev}P, and not to the NP. In other terms, PPs will be intersective with the embedded event and not with the (complex) NP. Cases of event modifiers inside the NP are possible with *-er* Ns and have been noted in the literature on French nominalizations (cf., in particular Kerleroux 2007). They behave in a systematic way: they are intersective with respect to the inner event, but non-intersective (and that may include a variety of interpretations; e.g., subsective) with respect to the N itself. Consider the following example:

- (47) les pêcheurs sous la glace (=subset of fishers)
 the fishers under the ice
 "under-ice fishers" (due to Kerleroux 2007)

It has been noted that the nominal in (47) can under no circumstances describe individuals that are fishing and located under the ice. However, the important point is that the locative PP is interpreted intersectively with respect to the fishing (and *not* the fisher(s)): the fishing must take place under the ice, while no location is specified for the fishers. Modifiers at the VP /AspP level will always lead to a nonintersective reading for NP (i.e. a subset). Accordingly, going back to the original examples, (48) is possible but only when understood as subclasses of a (prototypical) class of nominals, and *not* in an event interpretation. Concretely, (48a) for instance, cannot be interpreted as *the x such that x is a runner and x is in 9 seconds* (because type mismatch prevents PM from applying at the NP level); but can be interpreted (with more or less pragmatic felicity; cf. (48) vs. (49)) as a subclass of runners (i.e. those than run in less than 9 seconds, with respect to a contextually determined run or running).

- (48) les sprinters en moins de 9 secondes
 the runners in less than 9 seconds
 "the runners in less than 9 seconds"
- (49) a. le donneur de sang (*?en cinq minutes)
 the giver of blood in five minutes
 "the blood donor (*?in five minutes)"
 b. le dompteur des lions (*?pendant des années)
 the tamer of.the lions for many years
 "the lion tamer (*?for years)"

To conclude, adjunct PPs (including aspectual *in/for*-PP) are never allowed with *-er* Ns, as adjunction is precluded at the NP level. If adjunction takes place it can only be at the $\text{Asp}_{\text{Ev}}\text{P}$ level, leading systematically to a subsecutive interpretation with respect to NP (but intersective with respect to the lower $\text{Asp}_{\text{Ev}}\text{P}$). The subsecutive reading, however, is constrained by pragmatic reasons. Nominalization forms a local domain where the meaning is computed first and then further modifiers are possible, provided that they are of the right semantic type for PM to apply. Adjunction at the $\text{Asp}_{\text{Ev}}\text{P}$ level is possible but is interpreted as intersective with respect to the event only (via PM); adjunction is, in this case, not visible/accessible for the individual.¹³

Our results confirm what has been claimed in the literature since Grimshaw (1990); Van Hout and Roeper (1998); Borer (1999), namely that aspectual modifiers signal the presence of an underlying aspectual/verbal structure. However, the underlying event is only visible to adjuncts if the nominalization expresses a predicate of events and not of individuals. For a nominal to be built on an underlying event (hence a verbal/aspectual structure) does not equate to express a predicate of events. In that sense, there is no incompatibility between the fact that *-er* Ns denote individuals and the fact they, nevertheless, involve a grammatical event.

5. Extension to Simple Event nominals (SENs)

This view of events inside nominals, forced by semantic compositionality, allows us in turn to gain some understanding of the Simple Event nominals (SENs) traditionally left aside as problematic cases. Recall that SENs are interpreted as related to an event (e.g., *movie*, *meeting*, *concert*), yet they do not pass the tests for a strong/grammatical eventuality, but only the tests for a weak/conceptual eventuality: while they do accept predicates like *be interrupted*, *last x time*, and enter in the *during the N* construction, they do not (i) project arguments, (ii) allow *frequency* adjectives in the singular, (iii) allow PP aspectual modifiers like *in/for x time* (cf., Table 2).

Since SENs lack a grammatical event, they are not syntactically derived from a verbal/aspectual structure and we assume that they are simply formed from a root (whether they are morphologically complex as in the case of *meeting* or not, as in *concert*, *movie*, *attack*). Accordingly, they pattern structurally with R-Ns (including instrument *-er* Ns) rather than AS-Ns. Cf. (41).



If this is correct, then the difference between SENs and AS-Ns boils down to the same semantic type difference between $\langle e,t \rangle$ nominals on the one hand and $\langle v,t \rangle$ nominals on the other. What we have described as grammatical vs. conceptual eventuality interacts with the type difference: conceptual eventuality is found with nominals that are of the $\langle e,t \rangle$ type, whereas grammatical eventuality is found with *event* denoting nominals that are of type $\langle v,t \rangle$. In other words, SENs differ from AS-Ns in that they take an individual as argument (rather than an event); it just happens that for SENs that individual variable is an abstract entity, conceptually an event (rather than a concrete object as with *table*, *book*, and so on). Accordingly, SENs share properties with other R-Ns that are associated with reference to individual entities (including abstract ones): they are count and allow discrete quantification (*three movies*, *many concerts*; cf. (22a)), they do not take frequency adjectives in the singular (**the frequent concert*; cf. (21)) and do not take aspectual *in/for* PPs (52b). They differ, however, from other R-Ns in appearing with predicates like *took place*, *last x time* which seek for an event-denoting subject. However, this is only the result of their denoting abstract conceptual events (rather than concrete entities). In terms of the nominalization, for AS-Ns, (51a) and (51b) are structurally and semantically related: the nominal form in (b) is derived from the verbal form in (a) and hence they share common semantic features. By contrast, for SENs, (52a) and (52b) are only conceptually related in the sense that their roots share the same conceptual/lexical content, but do not have internal grammatical structure.

(51) a. On a construit la cathédrale (en 100 ans).
one has built the cathedral in 100 years

b. La construction de la cathédrale (en 100 ans)
the building of the cathedral in 100 years

(52) a. Les membres du projet se sont réunis (pendant 3 heures).
the members of.the project refl have met for 3 hours

b. La/une réunion des membres du projet (*pendant 3 heures)
the/a meeting of.the members of.the project for 3 hours

As earlier, the incompatibility of SENs with *in/for* PPs derives from a type mismatch between $\langle e,t \rangle$ nominals and $\langle v,t \rangle$ type adjuncts. Nothing special needs to be said of SENs in that respect; nor regarding frequency modification. As expected, SENs accept frequency adjectives when in the plural only, and thus pattern with R-Ns. The *frequent* modifier is adjoined at the NP level and forces pluralization of the individual with $\langle e,t \rangle$ type Ns. By contrast, recall that frequency adjectives do not force the plural on the nominal when they quantify over the inner event introduced by $\text{Asp}_{\text{Ev}}\text{P}$ in eventive *-er* Ns and AS-Ns.

In sum, SENs can be straightforwardly integrated in our type semantic account as $\langle e,t \rangle$ Ns and their apparently mixed properties can be derived from their semantic type and the special kind of abstract object they denote.

6. Conclusion

To conclude, event-related nominals (and nominalizations) form a rather heterogeneous group that is traditionally split into three coherent classes: AS-Ns, SENs, eventive *-er* Ns. They share event related properties that distinguish them from noneventive nominals altogether (R-Ns). The distinct properties of the three groups of event-related nominals can be accounted for on the basis of two interacting notions of event inside nominals. On the one hand, we have argued that a fundamental difference exists between grammatical eventuality, associated to the structural projection of VP/AspP and hence a verbal syntactic base, and conceptual eventuality that is expressed lexically on roots. On the other hand, the semantic type of the outcome of nominalization turns out crucial in distinguishing nominals that denote individuals (type $\langle e,t \rangle$) and those that denote events (type $\langle v,t \rangle$). The two notions interact in a very straightforward way, leading to the typology of nominals in Table 3.

Nominals of type $\langle e,t \rangle$ come in three flavours. They may not involve any event (and thus be interpreted as concrete entities); or involve an underlying eventuality, which can be a conceptual one only (SENs) or a grammatical one (eventive *-er* Ns). For nominals of type $\langle v,t \rangle$ the logically possible combinations are much more restricted, however. As $\langle v,t \rangle$ nominals are eventive in the strong/grammatical sense (i.e., they involve an event variable that is introduced, by assumption, structurally), they require a grammatical event: $\langle v,t \rangle$. They cannot involve a conceptual event or no event at all. The attested classes of nominals are, thus, precisely the ones that we should expect in our system.

NP type	Underlying eventuality	Nominal form
<e,t>	conceptual eventuality	SENs: <i>movie, play, concert</i>
<e,t>	grammatical eventuality: AspEvP <v,t>	eventive -er Ns: <i>driver, consumer</i> (e.g., <i>the driver of the truck to Paris</i>)
<e,t>	no eventuality	R-Ns (concrete individual entities): <i>table; exam; boy</i>
<v,t>	conceptual eventuality	**impossible
<v,t>	grammatical eventuality: AspEvP <v,t>	process AS-Ns: <i>destruction, examination, forming</i> (e.g., <i>the destruction of the city by the enemy</i>)
<v,t>	no eventuality	**impossible

Table 3: Typology of eventive and noneventive nominals

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Notes

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² We use the following abbreviations: *ev*–event; $\sqrt{\quad}$ –Root; *gen*–Genitive, *refl*–reflexive pronoun.

³ We use the terms ‘event’ and ‘eventivity’ in a loose sense that does not discriminate between events properly speaking and states, and interchangeably with the term ‘eventuality’ introduced by Bach (1986).

⁴ There is an interpretation for (16b) in which *lasted 3 hours* applies to the lifetime of the subject (here a concrete entity) and not to an event duration per se. Nevertheless, the conclusion that R-Ns are different from both SENs and AS-Ns is supported by their respective behavior with the other predicates, namely *take place*, *be interrupted*, among others.

⁵ Similarly, the literature invokes the subject position of *occur*, *start* or *finish* (see e.g. Vendler 1967, Snyder 1998 among many others). We take all these tests as broadly indicating semantic eventivity in nominals, and do not broach on further semantic distinctions like the one between events and propositions, pointed at in the literature.

⁶ As pointed out to us by a reviewer, SENs are compatible with another type of apparently temporal modifiers, namely *of x time*. Structurally, this modifier is not a VP modifier, however, and involves clear nominal modification; e.g. *a meeting/concert/movie of three hours in length*; we leave it aside as it is not relevant to the question of an internal grammatical event.

⁷ Recent works on pluralization have shown that AS-Ns may sometimes accept plurals and discrete quantification when the nominals denote a bounded event; Borer (2005); Alexiadou et al. (2010). What is important here is that no such requirement is made for SENs.

⁸ As discussed in the literature, frequency adjectives are often ambiguous between (at least) three readings: internal, adverbial and generic interpretations (cf., in particular, Gehrke and McNally 2012). Typical cases of frequency adjective + N, that do not involve argument structure (e.g., *an occasional sailor*, *an occasional beer*) are generic or adverbial. We are not concerned with these cases here, and refer the reader to Roy and Soare (to appear) for further discussion.

⁹ As specified in Roy and Soare (to appear), the (b) example is ungrammatical under the right, i.e., event related, interpretation and in argumental position. Predicative uses generally seem to render the eventive reading accessible; compare *I bought a big grinder* (# "a tiny machine that grinds much") vs. *This is a big grinder* (ok: "a tiny machine that grinds much"). Predication may, however, contribute its own eventuality; for that reason we focus our discussion on argumental nouns exclusively.

¹⁰ For the syntactic derivation of *-er* nominals we assume the results of Roy and Soare (to appear).

¹¹ In type semantics, *e* stands for entity; *v* stands for events. We use the following types: $\langle e, t \rangle$ for predicates of individuals, $\langle v, t \rangle$ for predicates of events, and $\langle e, \langle v, t \rangle \rangle$ for a predicate with an open argument position.

¹² Preposition *in* gives the duration of the agent action that brings about the telos, for a telic predicate (Giorgi and Pianesi 2000)

¹³ A phase-based approach to nominalization seems relevant to account for the domains of adjunction and interpretation (see, Chomsky 2008; van Hout and Roeper 2011, Bauke and Roeper (to appear)). The details of such an analysis would need to be worked out and we leave a proper implementation open for future research.

Grammatical and conceptual knowledge of dispositions in the interpretation of *-er* nominals: Experimental evidence from adults and children

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1. Introduction

Grammatical (or structural) knowledge is the knowledge of grammatical structure, which plays an essential role in calculating the truth-value of phrases, for instance; conceptual (or real-world or lexical) knowledge, on the other hand, is associated with what is commonly thought of as lexical or encyclopedic knowledge. Structurally, both types of knowledge are by assumption associated with radically different representations. Grammatical knowledge is contributed by functional structure that is visible to syntax; in recent decompositional analyses it typically involves dedicated functional heads, or the presence of a variable in structure. Conceptual knowledge is not concerned with functional structure, but rather with the meaning of roots (Borer 2005, and among others). It is the meaning shared, for instance, by a series of words like ‘forest’, ‘forestry’, ‘deforestation’, that share a common concept ‘forest’, but whose categorial and grammatical properties may differ.

In this paper we consider how grammatical and conceptual knowledge affect children’s and adults’ interpretation of derived *-er* nominals such as *cutter of branches* (a phrasal *-er* nominal) and *branch cutter* (a compound *-er* nominal). We consider these because while they have similar conceptual meaning, their different grammatical structures have been argued to affect their interpretation.

The difference in the interpretation of phrasal and compound *-er* nominals is that the referent of a phrasal *-er* nominal, unlike the referent of a compound *-er* nominal, must be animate and have a disposition to do or cause the action in question. For example, the phrasal *-er* nominal *cutter of branches* refers not simply to someone who has cut particular branches at a particular time, but necessarily to someone who typically cuts branches and has actually done so, perhaps as part of their job. The compound *-er* nominal *branch cutter*, on the other hand, can refer to an inanimate instrument as well as an animate agent (Rappaport Hovav & Levin 1992, van Hout & Roeper 1998), and moreover does not require the action to have ever taken place.

Though it is generally agreed that this interpretive difference is driven by differences in grammatical structure, there has been much discussion about the precise cause. Rappaport Hovav & Levin 1992 suggest that this difference in

judgments stems from the idea that only phrasal *-er* nominals have an underlying event argument, associated with the presence of an agent: their claim is that phrasal *-er* nominals are *eventive* and compound *-er* nominals are *non-eventive* (see Grimshaw 1990). Following recent theories on nominalizations (van Hout and Roeper 1998, Borer 1999, 2003, Alexiadou 2001, among others), the source of the difference between eventive/non-eventive nominals in general is related to a structural difference: eventive nominals are derived from verbal structures that involve verbal and aspectual layers, whereas non-eventive nominals are derived from roots directly and therefore do not exhibit properties associated with verbs, such as the ability to have arguments or the ability to take aspectual and temporal modifiers. This difference is grammatical rather than conceptual in nature.

- (1) a. eventive nominals: [NP N [vP/AspP [root]]]
 b. non-eventive nominals: [NP N [root]]

While most subsequent work on *-er* nominals agrees that there is a correlation between having an event interpretation and the presence of complex internal verbal and/or aspectual structure (Alexiadou & Schäfer 2008, 2010; Roy & Soare 2012, 2014; but see Borer 2013: chap. 12 for a contrastive view), authors disagree on whether the distinction between phrasal vs. compound *-er* nominals should be explained simply in terms of this correlation. Alexiadou & Schäfer (2008, 2011, 2012) argue, contra Rappaport Hovav & Levin, that *-er* nominals *always* have an event interpretation, and that any differences between readings, and specifically whether or not an actual event is entailed to have occurred, derive from a fundamental split between episodic vs. dispositional eventive *-er* nominals. Only the former entail that an actual event has taken place (e.g., *a saver of lives* must have saved lives). The dispositional meaning does not (e.g., *lifesaver*, who does not need to have saved lives but need only have a disposition to save lives). However, for Alexiadou & Schäfer, all *-er* nominals are cases of grammatical event nominals. This makes their dispositional *-er* nominals a case of ‘grammatical’ dispositions.

Roy & Soare (2012, 2014), too, argue that animate phrasal *-er* nominals are complex event nominals, and that the dispositional reading results from binding by a generic operator. For them, animate dispositional *-er* nominals also involve grammatical dispositions. However, they argue that the Alexiadou & Schäfer’s episodic/dispositional distinction alone cannot account for the structural and interpretational properties of *-er* nominals. Instead, they use that distinction in combination with Rappaport Hovav and Levin’s eventive/non-eventive distinction. Crucially, unlike Alexiadou & Schäfer, Roy & Soare account differently for the readings of compound *-er* nominals (*branch cutter*). For Alexiadou & Schäfer, instruments share the same internal structure as dispositional animate nominals, and hence represent a further case of grammatical dispositions. For Roy & Soare, this is not the case. They argue that instruments do not exhibit any of the event-related properties exhibited by dispositional animate *-er* nominals. We refer the reader to these papers for the precise arguments based on the distribution of adjectival modification (of the type *frequent/constant* and *old/happy*) with an event reading, related to the inner event contributed by a putative verbal base. Instrument readings

of compound *-er* nominals, it is concluded, are not complex event deverbal nominals, but rather mere nominalizations of a root (and verbal/aspectual layers are therefore not realized). Consequently, instrument readings do not involve an event variable, and accordingly there is no event variable in the structure to be bound by a dispositional or generic operator. Instead, instrument readings involve reference to objects with ‘conceptual’ dispositions: the dispositional sense come from our knowledge of the world and what instruments are made for/ exist for in this world, and it is not associated to any piece of structure or semantic component that the grammar perceives. In other words, names for instruments are simple names of entities, just like other words like *table*, *flower*, *notebook*, which happen not to have a particular association with a disposition. We adopt this analysis here (see Roy & Soare 2013 for a more detailed discussion of the distinction between conceptual vs. grammatical event nominals more generally).

To summarize, our starting point for understanding the interpretations assigned to phrasal and compound *-er* nominals is that, as Rappaport Hovav & Levin argued, phrasal and compound *-er* nominals have similar conceptual meaning, but different grammatical properties, resulting in an interpretive difference. Further, dispositional meaning also contributes to interpretation. Dispositional meaning can arise either grammatically or conceptually. Phrasal *-er* nominals require their referent to have an agent and a disposition that is constrained by the grammatical information, while the referent of compound *-er* nominals may have a mere conceptual disposition.

Phrasal and compound *-er* nominals thus provide a good minimal pair to test to what extent children and adults use grammatical information in phrasal *-er* nominals as a source of meaning. Specifically, we predict that if grammatical information is used exclusively, dispositional animate phrasal *-er* nominals and instruments will be treated differently. On the other hand, if conceptual knowledge is prevalent, we expect to see less difference between animate dispositions and instruments. The aim of the current study is, thus, to test *-er* nominal judgments experimentally as a case study for conceptual vs. grammatical knowledge. However, in so doing we will attempt to control for dispositional meaning, a possibility now afforded by new understanding based on recent research on dispositions in *-er* nominals. Although we begin by testing both adults and children, we primarily focus on adults—whom we know have fully acquired the requisite grammatical knowledge—to understand what factors influence the use of conceptual and grammatical knowledge in language comprehension.

2. Prior work

Only a few experimental studies have investigated adults’ and children’s interpretations of *-er* nominals. Clark & Hecht (1982) used an elicited production task to encourage children to produce novel *-er* nominals by asking, e.g., “What would we call someone who / something that opens things?”, finding, as predicted, that children used *-er* nominals such as “opener” to refer to agents more often than instruments. Randall (1982) used a picture selection task to explore children’s agentive interpretations of *-er* nominals like “a biker with no hands”, finding that 5-year-olds incorrectly allowed the modifier “with no hands” to modify the event of

riding rather than the agent himself; that is, they sometimes chose a picture in which the biker had hands but did not apply them to the bike. These results were interpreted to mean that children encode different information in the structure of *-er* nominals than adults.

In an important follow-up, which serves as the backdrop for the current study, van Hout & Bos (2004) tested 5-year-olds and adults to ask more precisely how children's interpretations of these nominals might differ from adults'. Specifically, they asked whether participants restricted phrasal *-er* nominals to agents, as their structure requires. First, in a picture selection task, they tested only phrasal *-er* nominals (e.g., *catcher of flies*), and asked participants to choose between an agent picture (e.g., a man swatting at flies with a flyswatter), and an instrument picture (e.g., a flyswatter). Their results were surprising: while both children and adults preferred agent interpretations for phrasal *-er* nominals, neither group did so 100% of the time. Children chose agents on 71% of trials, and adults on 88%. Recall that according to the traditional linguistic description of phrasal vs. compound nominals, phrasal nominals are ungrammatical with an instrument interpretation (i.e., *a catcher of flies* can only refer to an agent).

To follow up on this unexpected result, van Hout and Bos introduced both phrasal and compound *-er* nominals in a truth value judgment task; they asked participants whether agent and instrument pictures were appropriate depictions of these nominals. Again, the results were surprising: in the phrasal condition (e.g., *catcher of flies*), adults accepted the agent interpretation 50% of the time and the instrument interpretation 32% of the time. In the compound condition (e.g., *fly catcher*), they accepted the agent interpretation 67% of the time and the instrument interpretation 57% of the time. Thus, although they did show the expected decrease in acceptance for instrument as compared to agent interpretations of phrasal nominals, they still accepted these one third of the time, and this is even more striking given that overall they were quite conservative, in general only accepting a picture to represent the referent of an *-er* nominal a little over half the time.

Children showed a different pattern, accepting both agent and instrument interpretations for both phrasal and compound nominals at similar (high) rates; their acceptance rates for all four conditions were between 84% and 89%, suggesting that they did not discriminate between the linguistic conditions. van Hout & Bos concluded that by 5 years of age, children are not yet able to use structural information to correctly map phrasal *-er* nominals to agents, and that their syntactic representations for phrasal and compound nominals are the same.

However, we think this conclusion is too hasty. The poor performance of adults, whom we expect to have full structural knowledge, suggests that something about the experimental materials or task was hindering participants' abilities to access structural knowledge. Therefore in the current study, we take their results as a starting point for further exploring adults' and children's interpretations of *-er* nominals. Our goal was to advance the methods used by van Hout & Bos by taking into account dispositional meaning (Roy & Soare, 2012, 2014).

Thus, in the present study, we have aimed to control for the contribution of dispositions. In Experiment 1, we aimed to *increase* to a comparable level the conceptual information about dispositions of both the instrument and agent. We

hypothesized that by controlling for conceptual information about disposition, by making both dispositions conceptually salient, we would be able to isolate effects of structural knowledge. However, this was not what we found; for both children and adults, conceptual information still played a role, such that it was still not possible to isolate the role of structural knowledge.. Therefore, in Experiment 2, working just with adults because we know that they possess the relevant grammatical knowledge, we aimed to *decrease* the conceptual information about dispositions we provided to an absolute minimum, again seeking to control for such information to allow structural knowledge to drive participants' interpretations of *-er* nominals. Our findings reveal that, indeed, when conceptual information is absent, structural knowledge drives interpretation. Taken together, these two experiments offer a new way of thinking about how children and adults derive interpretations for *-er* nominals, and suggest avenues for future research aimed at understanding how children recruit both conceptual and structural knowledge to acquire meaning.

3. Experiment 1: Adults and Children in a Picture Selection Task

The goal of Experiment 1 was to determine if increasing the salience of the dispositions of the agent would improve performance, allowing children and adults to perceive the agent as dispositional and therefore a better candidate for the referent of a phrasal *-er* nominal. We used very similar methods as in the picture-selection experiment in van Hout & Bos (2004), but with different stimuli and incorporating both phrasal and compound conditions in a single design.

One primary change we made to the paradigm used by van Hout & Bos was in the visual stimuli we chose to depict the potential referents of the phrasal and compound *-er* nominals. As van Hout & Bos themselves surmised, the pictures they used to depict agents seemed to favor an episodic reading rather than a dispositional one, because the agents were depicted performing the action at the time, but were not necessarily canonical agents of the action. This would introduce another difference between the depicted agents and instruments, namely, that the instruments had strong, clear dispositions in the real world, while the agents did not. Accordingly, we used stimuli that did not represent the agent as performing the event, but rather as being someone who typically performs the event, and wearing the typical attributes related to the event with no representation of dynamicity (a uniform, for instance). Additionally, before asking participants to choose the appropriate picture, we described both the agent and object in such a way that each of their dispositions was explicitly identified. For example, for the nominal *branch cutter* or *cutter of branches*, before making a judgment participants were told, "Here's someone whose job is to take branches of trees so the sun can shine through" about the agent, and "This is something you can use to get branches off trees" about the instrument. By controlling for conceptual information about dispositions, our goal was to tease apart the contribution of the grammatical knowledge in assigning a referent to the pictures. We predicted that the participants relying primarily on grammatical knowledge would distinguish between dispositional agents and instruments, as they have different internal structure, and would thus show a strong preference for assigning agent interpretations to phrasal -

er nominals. However, if the participants rely primarily on conceptual knowledge, they should make no distinction, as both dispositional agents and instruments have conceptual dispositions (although the source of the dispositional reading varies in both cases, as agents but not instrument can also have grammatically-expressed dispositions). The outcome would be similar preferences across syntactic conditions.

Methods

Participants

Sixteen adults and 18 5-year-old children (mean age: 5;6; range: 5;1 to 5;11) were included in the final sample. Adults and children were recruited from Boston, MA, and surrounding communities. All were native speakers of English, speaking or hearing other languages less than 35% of the time. An additional 3 children were tested but excluded from analysis due to foreign language exposure greater than this.

Materials

Visual stimuli were pictures, drawn by an artist, of people and objects. See Fig. 1 for an example. The agent and instrument pictures for each trial appeared side-by-side, with left-right positioning counterbalanced across trials. The auditory stimuli consisted of a script read by an experimenter to the participant, described below.

Apparatus and Procedure

Children played with toys with the experimenter while their caregiver signed a consent form. The child or adult participant was then seated in front of a desktop computer. The experiment was presented in PsyScope (Cohen et al., 1993). The experimenter sat beside the participant. A second experimenter sat off to the side and hand-coded all responses.

The experiment consisted of two training trials, 10 target trials, and 10 filler trials. Target and filler trials were interleaved. Target trials always depicted an agent and instrument dispositionally related to the event described. Training and filler trials always depicted a person and an object, and the story related them, but the test query was always a label for one of the two depicted entities, e.g., *where is the clown?* Some filler trials included multimorphemic referents (e.g., *where is the fairy princess?*) to make them more similar to the target trials.

For children, the experimenter first introduced a puppet from outer space who was learning English. On each trial, the experimenter read from a script (memorized to the extent possible) in an engaging child-directed register. The script introduced both a person (on half of the trials) and an object (on half of the trials), and described the dispositions of both. For example: “Here’s someone whose job is to take branches of trees so the sun can shine through. And this is something you can use to get branches off trees.” The order in which the person and object were introduced was counterbalanced across trials. Next, the experimenter asked the test query, for example, “Now we’re going to teach Alvin the Alien. Can you show Alvin the cutter of branches?”. The puppet gave the child a sticker after each trial as a thank-you gift for helping. The procedure for adults was identical except that an adult-directed register was used and no stickers were distributed. The experimenter told the participant that the game was designed for children and that

they would be asked to “show Alvin” on each trial.

Participants were assigned to one of four presentation lists. The set of pictures was identical in all lists. In two of the lists, the item queried on target trials differed from the other two lists; in lists A and B, the experimenter asked “where is the cutter of branches?” and in lists C and D, “where is the branch cutter?” In each list, half of the target trials queried phrasal nominals, and half queried compound nominal. Lists A and C differed from B and D only in order; lists B and D presented the trials in reverse order. Participants were randomly assigned to a list.

Participants’ pointing responses were recorded by both experimenters: the first experimenter pressed the “f” or “j” key for the participant’s left or right point, respectively, and keystrokes were recorded by PsyScope; the second experimenter recorded all points on a paper coding sheet. The two coding responses were cross-checked, with 100% agreement.

Predictions

Idealized performance is depicted in Table 1. If participants use only structural information to guide their responses, then they should choose the agent picture 100% of the time on phrasal nominal trials, and 50% of the time on compound nominal trials.

	Agent	Instrument
Phrasal	100	0
Compound	50	50

Table 1. Idealized performance.

Results

Adults. Adults gave correct responses on 100% of training and filler trials. On 11 out of the 160 trials in total, adults responded that both pictures were correct; these trials were excluded from analysis. On the remaining trials, as shown in Table 2, on phrasal nominal trials, adults chose the agent picture 73% of the time, and on compound nominal trials, 21% of the time. We used a chi-square test to determine if adults chose the agent picture more or less often than chance performance in each condition. In the phrasal condition, they chose the agent picture significantly more often than chance ($X^2(1) = 15.6, p < .0001$), and in the compound condition, significantly less ($X^2(1) = 24.7, p < .0001$), and performance in the two conditions differed significantly from each other (Fisher’s exact test, $p < .0001$).

Children. Children gave correct responses on 98% of filler trials (no child missed more than one filler trial). Of the test trials, on 5 out of the 240, children did not point at all; these trials were excluded. Of the remaining trials, children chose the agent picture 33% of the time on phrasal nominal trials, and 30% of the time on compound nominal trials. A chi square test revealed that in both conditions, the phrasal nominal condition, this pattern differs from chance (phrasal: $X^2(1) = 10.8, p < 0.01$; compound: $X^2(1) = 14.1, p < 0.001$); that is, in both conditions, children showed a significant preference for the instrument picture, contra our initial predictions. Performance in the two conditions did not differ significantly from

each other (Fisher's exact test, $p < 0.75$).

		Agent
Adults	Phrasal	73%
	Compound	21%
Children	Phrasal	33%
	Compound	30%

Table 2. Actual results from Experiment 1. The percentage of trials on which adults and children chose the agent on phrasal and compound nominal trials.

Discussion

The results reveal that while, as predicted, adults are sensitive to the structural differences between phrasal and compound nominals, their performance is far from the idealized predictions in Table 1. We interpret this to mean that factors other than grammatical structure are informing their judgments.

Children, however, showed no sensitivity to the structural difference, choosing agent interpretations equally in both conditions; this is line with what van Hout & Bos found. (Note that unlike van Hout & Bos, we found an overall instrument bias rather than an agent bias. This could be due to differences in the pictures or story setup we used; nevertheless, what is crucial is that neither set of results shows a difference across structural conditions.)

Our approach in this experiment was to highlight the real-world dispositions of both agent and instrument in order to ensure that both were, at least with regard to conceptual disposition, appropriate referents for the nominal. However, this approach did not result in greater sensitivity to structural information than seen in van Hout & Bos. We suspected that this was because participants were using real-world knowledge to inform their interpretations, and that this real-world knowledge biased them to select instruments because the canonical nominal formations we used bring to mind real instruments such as potato peelers, window wipers, and potato mashers. Even in the phrasal condition, then, this real-world knowledge may have overridden structural knowledge to lead participants to focus on those real-world objects. Thus, in Experiment 2, we took the opposite approach: we reduced the amount of lexical/conceptual information available, and provided no information about dispositions, in order to block access to conceptual information as a relevant source for interpretation.

4. Experiment 2

In Experiment 2, we presented adults with phrasal and compound nominals, but absent any visual stimuli, in order to minimize the availability of conceptual/real-world knowledge. Instead of a picture selection task, we used a definition task with adults. The definition task offers several advantages over picture selection; it allows us to present the linguistic stimuli without visual stimuli,

which reduces the amount of conceptual/real-world information, and it also allows participants to imagine any referent, rather than being constrained to two choices. We hypothesized that this task would encourage adults to use structural knowledge to inform their definitions. We focus on adults only to avoid the potential confounding question that children present of whether they possess the relevant grammatical knowledge in the first place. We return to the implications for children in the General Discussion.

In Experiments 2b and 2c, we used novel nominal formations like *flattener of cushions* (Experiment 2b), and with novel words like *gazzer of towels* (Experiment 2c). These novel nominals allowed us to minimize conceptual/real-world knowledge even further by blocking access to lexical cues. But first, in Experiment 2a, we had to see how adults' response patterns would change simply as a function of the change in task from picture selection to definition. Therefore, Experiment 2a presented the exact same linguistic stimuli as in Experiment 1.

Experiment 2a

The goal of Experiment 2a was to establish baseline performance for interpretation of phrasal and compound *-er* nominals in a definition task. We presented adults with the same items as in Experiment 1, but in a questionnaire in which they were simply asked to provide definitions for the nominals.

Methods

Participants

Twenty-four adults completed a definition task in the form of an offline questionnaire. All were native speakers of English, none of whom had participated in Experiment 1.

Materials

The items used in Experiment 1, *-er* nominals presented in either a phrasal (e.g., *peeler of carrots*) or a compound condition (e.g., *carrot peeler*), were used in this experiment as well, except that no pictures were presented. In addition to the target items, 21 filler items were included to distract participants from true purpose of the study. Fillers were known compound words (e.g., *carwash*) or *of*-phrases (e.g., *lily of the valley*), half of which referred to objects, and the other half to people. As with Experiment 1, two presentation lists were constructed; each target item was presented in either the phrasal or compound nominal form, but participants saw items of each type. Filler trials were interspersed.

Procedure

The participants completed the questionnaire online, via the Internet-based platform IbexFarm (Internet Based EXperiment, <http://spellout.net/ibexfarm/>). They were instructed to carefully read each item and “to define it as you would for a dictionary or for someone who doesn't speak English very well”. Each item was followed by a prompt with a blank line, and subjects had to fill in the blank with a definition. Items appeared on the screen one by one, and participants could not return to earlier items. Completing the online questionnaire took less than 30 minutes.

Results

Responses were coded according to whether participants chose an agent or

an instrument interpretation. On 20 of the 240 total items across all participants, both agent and instrument interpretations were evident (e.g., “a person or thing that ...”), and on an additional 32 items, neither was evident (e.g., “I don't know”, or “a retail outlet where one can buy wipers” for the item *window wiper*). These trials were distributed fairly evenly across conditions (52 in the compound nominal condition; 62 in the phrasal nominal condition).

Of the remaining responses, in the phrasal nominal condition, an agent interpretation was given 79% of the time, and in the compound nominal condition, an agent interpretation was given only 28% of the time. Chi-square tests revealed that these differences were significant; in the phrasal condition, they chose the agent interpretation significantly more often than chance ($X^2(1) = 29.225$, $p < .0001$), in the compound condition, significantly less ($X^2(1) = 17.021$, $p < .0001$), and performance in the two conditions differed significantly from each other (Fisher's exact test, $p < .0001$). (Note: To avoid inflating the apparent effects, we included “both” and “neither” responses in the chi-square analyses here and below.)

Discussion

As in Experiment 1, adults preferred the agent interpretation for phrasal *-er* nominals, and again they did so less than the 100% predicted preference. The fact that instruments express dispositions seems to allow them to be selected in the phrasal condition, even though this interpretation is ungrammatical. This suggests that subjects were in part led by their conceptual knowledge, associated to the lexical/referential meaning of words, even though the task relied on structural, and hence grammatical, decisions.

However, in this experiment, they also showed a strong agent preference for compound nominals, unlike in Experiment 1. We suspect that this difference is due to the different methods we used. Experiment 1 presented filler items that were intended for children--these were clear yes/no answers. In contrast, this experiment presented fillers that were intended to distract adults from the true purpose of the experiment. It is likely, then, that their responses to phrasal nominals were not as influenced by their responses to compound nominals as they were in Experiment 1; there was therefore no reason for a complementary distribution of agent responses to evince in this experiment. (Note that the overall agent bias we found in Experiment 2a is similar to what van Hout & Bos found.)

Recall that the goal of this experiment was in fact to determine a baseline level of agent preference in each condition in this definition task, in contrast to the picture selection task. We now proceed to the subsequent experiments with this overall agent bias in mind. We hypothesized that because conceptual meaning arises from what we know about the referents of words, we would be able to encourage use of structural cues to meaning by decreasing lexical/referential cues. We do so in Experiments 2b and 2c by introducing novel *-er* nominals for which adults do not already have referents.

Experiment 2b

First, in Experiment 2b, we created a second questionnaire, comprised of compound and phrasal derived *-er* nominals for which neither the agent nor the

instrument are real-world people or objects. Our motivation for using these unattested nominals is to prevent interference from pre-existing dispositions of the agent or instrument. We predicted that these unattested nominals would increase the agent preference in the phrasal but not the compound nominal condition.

Methods

Participants

Thirty adults completed a definition task in the form of an offline questionnaire. All were native speakers of English who had not participated in the previous experiments.

Materials

Ten new experimental items were constructed for this questionnaire. The same two critical conditions manipulated in Questionnaire 2a were used for this experiment: a phrasal (e.g., *labeler of bottles*) vs. a compound condition (e.g., *bottle labeler*).

As in Questionnaire 2a, in addition to the experimental items, 21 filler items that also are unattested in English (e.g., *juice chair*, *data team*) were included. Again, participants saw one of two presentation lists such that they saw each target trial in either the phrasal or compound nominal form. Filler trials were interspersed.

Procedure

The procedure was the same as in Experiment 2a.

Results

Responses were coded as in Experiment 2a. Responses that indicated both agent and instrument interpretations (16 out of the total 300) as well as responses that indicated neither (26 of 300) were again similarly distributed across conditions (19 in the phrasal condition and 21 in the compound condition). Of the remaining responses, in the phrasal condition 90% showed an agent interpretation (significantly more than chance, $X^2(1) = 83.851$, $p < .0001$) while in the compound condition, 73% did so (significantly more than chance $X^2(1) = 25.290$, $p < .0001$). Performance in the two conditions differed significantly from each other (Fisher's exact test, $p < .0007$).

Discussion

In the compound condition, the agent preference remained similar to Experiment 1, indicating that our use of unattested nominals did not influence performance. However, as we predicted, in the phrasal condition, the agent preference increased, closer to the idealized 100% preference. We claim that this is because we used nominals that did not refer to existing instruments, which therefore reduced the influence of world knowledge for conceptual dispositions. We hypothesized that we could reduce this influence still further if we used nonce words, and not just unattested nominals with real words. Therefore, in Experiment 2c, we replaced both of the content morphemes in the nominals with nonce morphemes.

Experiment 2c

In Experiment 2c, we aimed to reduce the influence of real-world conceptual knowledge still further by using nonce morphemes. We predicted that the percentage of agent responses would increase still higher in the phrasal nominal

condition, and closer to the idealized 100% preference, but that responses in the compound nominal condition would remain similar to the baseline we established in Experiment 2a.

Methods

Participants

Twenty-two adults completed a definition task in the form of an offline questionnaire. All were native speakers of English who had not participated in the previous experiments.

Materials

As in the previous questionnaires, ten experimental items were constructed for this questionnaire. As replacing all the lexical items with invented words (e.g., *nerger of shrieks*) was judged too difficult for participants, we used invented words only for the verb. The same two different conditions were tested: a phrasal (e.g., *wongler of groups*) vs. a compound condition (e.g., *group wongler*). As before, in addition to the experimental items, 21 filler items without *-er* (e.g., *book shinging*, *huppation of faxes*) were included to distract participants from the true purpose of the study. Two presentation lists were constructed so that participants would only see the experimental items in one of the two critical conditions.

Procedure

The procedure was the same as in the previous two questionnaires.

Results

Responses were coded as before. Responses in favor of both interpretations (22 out of 220) or neither interpretation (88 out of 220) were distributed relatively evenly across conditions (66 in the phrasal condition and 44 in the compound condition), and were excluded from analysis. Of the remaining responses, in the phrasal condition adults provided an agent interpretation 94% of the time (significantly more than chance, $X^2(1) = 58.299$, $p < .0001$) and in the compound condition, 76% of the time (significantly more than chance, $X^2(1) = 24.045$, $p < .0001$). Performance in the two conditions differed significantly from each other (Fisher's exact test, $p < .0025$).

Discussion

As predicted and shown in Table 3, the results for the compound condition are comparable to Experiments 2a and 2b, but in the phrasal condition, the agent preference was higher than in Experiment 2a, and even more so than in Experiment 2b. Experiments 2b and 2c show that adults approach the expected 100% preference for agents as referents of phrasal *-er* nominals as we removed more lexical content, that is, when lexical sources of world knowledge are removed (Experiments 2b and 2c).

Questionnaire	2a	2b	2c
Phrasal	78.7%	89.6	93.5
Compound	79%	72.6	76.1

Table 3. Percentage of agent interpretations as a function of condition for Experiment 2.

5. General discussion

The results of our experiments reveal that while adults and children are sensitive to the structural differences between compound and phrasal nominals, the interpretation of *-er* nominals is not always solely driven by structural information. Rather, adults also have access to and use conceptual knowledge to the extent that it sometimes can override structural knowledge. We found that for adults, the more we limited the availability of conceptual knowledge, the more structural knowledge came to the forefront.

Thus, on the basis of our results, we cannot conclude that children do not have access to structural information at the stage where they were tested. If conceptual knowledge may interfere with the grammaticality judgments predicted by linguistic theory for adults, it may well do so for children as well. The results in van Hout & Bos point in the same direction.

Given this interpretation of the results, some interesting questions remain. First, given that both conceptual and grammatical information can be used to constrain a subject's mental model of the situation being discussed, the question arises as to why conceptual information can sometimes apparently trump grammatical information. In linguistic theory, this result is unexpected. To understand why this happens, we propose to make use of a distinction between *automatic* and *controlled cognitive* processes (Posner & Snyder, 1975). We hypothesize that accessing conceptual knowledge is automatic, while using grammatical information with conceptual information to construct a mental model is not necessarily entirely automatic; that is, it may involve some non-automatic process. Thus, deciding whether something has a mere conceptual disposition invokes only world knowledge, but deciding whether something has an event-related grammatical disposition invokes both conceptual knowledge and structural knowledge; some controlled, and therefore slower and more cognitively costly process must be involved. It might even be speculated that the combinatorial nature of grammar is more costly than simply accessing stored knowledge by virtue of its combinatorial complexity. We are not claiming that accessing grammatical knowledge, in and of itself is non-automatic, but that combining conceptual and grammatical information to construct a mental model leads to a more costly cognitive process.

Speculations aside, note that on this account there is only one specific use of grammatical information, namely using it to constrain a mental model, that must involve a non-automatic process. So this idea does not entail that other processes involved in language processing are not generally automatic. And in fact there is independent evidence that non-automatic processes are invoked in constructing adequate mental models. For instance, when asked whether the truth of (2a) and (2b) together entail the truth of (2c), many people will say that it does (Evans, Barston, & Pollard 1983).

- (2) a. All roses are flowers.
- b. Some flowers are big.
- c. Some roses are big.

However, on reflection, one constructs a mental model that includes some non-rose flowers, and it is clear that the truth of (2c) is not entailed. So evidently, it is perfectly possible to at first automatically construct a mental model that erroneously would lead one to give the wrong answer for (2). This case does differ from the *-er* nominal cases in that here it is not grammatical knowledge that is being underutilized, but rather the set-theoretical knowledge of *all* and *some*, as well as the ability to override a “closed world” assumption that roses are the only objects in the mental model being constructed. The point nonetheless remains that constructing models based on fine-grained relationships expressed by non-lexical morphology need not be automatic, fast, and easy.

In the case of *-er* nominals, we propose that matching a non-event-related disposition to a referent in the world, as one does when picking a referent for a compound *-er* nominal, is an automatic process, as it only involves conceptual knowledge. On the other hand, matching an event-related (grammatical) disposition to a referent in the world, as for phrasal *-er* nominals, is not entirely automatic. Since controlled processes are slower and have a greater cognitive cost than automatic processes, speakers may use automatic, conceptual matching instead of non-automatic, grammatical matching, in an experimental setting. If a speaker does use automatic matching for phrasal *-er* nominals, they will pick out an appropriate referent that has a mere conceptual disposition, that is, either an agent or an instrument. Some speakers seem to do exactly this, eschewing the more costly controlled process, which would constrain the referent to be animate (via the grammatical disposition, which apparently requires animacy). This would explain why we did not observe 100% agent selection by adults in the phrasal condition in Experiment 1 and 2, but nearly did in Experiment 2c where conceptual knowledge cues were essentially absent.

The fact that structural knowledge can be present (implicitly) but not used thus confounds attempts to decide whether speakers have or do not have structural knowledge, especially if the task involves some controlled processes. Methodologically, it appears crucial to distinguish grammatical and conceptual knowledge, controlling for the interference of conceptual knowledge, in order to understand what role structure may or may not play to resolve interpretational problems at the syntax-semantics interface. This point leads us to believe that it would be worthwhile to probe adults’ and children’s grammatical knowledge using measures that specifically target automatic processing to be able to better determine the extent to which adults and children have structural knowledge. Of course, this is challenging with children; pilot data suggest that presenting children with a novel word questionnaire without visually depicting possible referents, as we did with adults in Experiment 2c, leads to many uninterpretable responses. We leave this as a call to future researchers, perhaps using neurological or other sensitive behavioral methods such as eye-tracking, to devise such tests.

Another question raised by this research is whether this account, in which conceptual information interferes with grammatical information, conflicts with a view of semantics as interpretive of syntactic structure. Our response to this question is that it does not. The semantics that is interpretive of syntactic structure

is logical form, and is included in what we mean by “structural information”. The interfering semantic information is conceptual in nature; it relates to the encyclopedic content of words and their relation to the real world, i.e., to knowledge that is related to the lexicon. Just because the conceptual information interferes with the use of logical form (i.e., structural information) does not mean that logical form is not interpretive of syntactic structure.

In this context, it is also important to note that, both Alexiadou & Schäfer’s and Roy & Soare’s accounts of *-er* nominals prove useful in distinguishing conceptual from grammatical information. Alexiadou & Schäfer use grammatical dispositions, for instruments as well as agents; while Roy & Soare argue that instrument dispositions are simpler than event-related agent dispositions. The theoretical difference here is what has led the present study to distinguish grammatical vs. conceptual dispositions, and by extension to investigate the relative role of grammatical and conceptual knowledge and how they may interact or not.

With this distinction in mind, it becomes clear how the judgments predicted by linguistic theories may vary from the actual results arising from the experimental settings. The goal of theoretical linguists in providing judgments is very often to exclude mere conceptual information, i.e., world knowledge, to the benefit of structural information. This is why binary judgments of the type ‘grammatical’ / ‘ungrammatical’ are in fact possible at all: in essence the linguist judges a structure as conforming to the grammar or not, and world knowledge does not intervene in deciding if a particular combination may or may not be the product of a particular grammatical system. Participants in our picture-naming tasks and questionnaires, however, may or may not distinguish structural information and grammatical information: there are different cues to the dispositional reading, but they do not necessarily separate them; they may not even be explicitly aware that there are two different sources of information.

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Figure 1. Example stimuli from one trial (*cutter of branches / branch cutter*) in Experiment 1.

Complex Prepositions

Isabelle ROY and Peter SVENONIUS

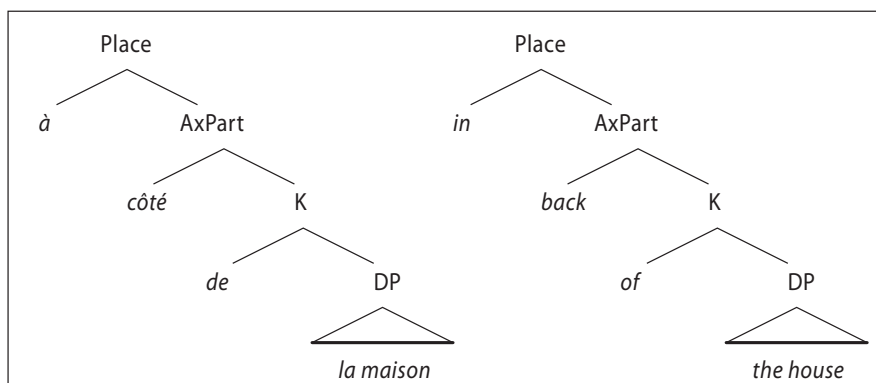
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1. Decomposition of P

Many languages have complex prepositional expressions to express spatial notions, for example *à l'intérieur de*, *à cote de*, *en bas de* and in English *in front of*, *on top of*, and so on. These can often be decomposed, morphosyntactically, into three parts: [i] a case-head such as French *de* or English *of*, which we will refer to as K (for Case), [ii] a region based on an axial part-whole decomposition, which we call AxPart, and [iii] a PLACE. These can be arranged in a tree structure as in (1).



Each of these nodes has a syntax and a semantics. The syntax can be detected by, for example, selection by predicates (e.g. *put* subcategorizes for a Place complement, Emonds 2000). The semantics can be expressed in terms of ‘regions’ (contiguous sets of points in space, Kracht 2002).

For example, K is semantically a function from a ‘Ground’ object (in the sense of Talmy 2000) to an associated region (what Wunderlich 1991 calls the EIGENPLACE). The AxPart is a function from K to related regions. Typically, for spatial expressions, it is specified as an axial part of the Ground, such as a top, bottom, front, back or side (see Jackendoff 1996, Svenonius 2006), but it may also be a ‘vicinity’, a nearby space.

A Place head like *à* is defined as a function from AxParts to vector spaces of the sort developed in Zwarts (1997). For example, in *à côté de*, the nominal *côté* selects an AxPart (the side) of the Ground object introduced by the case-head *de*, and the Place element *à* projects a vector space from the *côté* of the Ground, i.e. a set of vectors of differing lengths pointing away from the AxPart (the side). *Paul est à côté de Marie*, means, accordingly, that Paul is located at the end of one or more vectors projected from Mary's side.

Ruwet (1969) argued that all spatial prepositions are decomposed into a spatial function (*à*) and a locative relation. Bennett (1975) similarly developed syntactico-semantic decompositions of monomorphemic English prepositions such as *in* and *under*.

Since e.g. *behind the house* means exactly the same thing as *in back of the house*, and we have assigned meanings to the Place and AxPart components (plus a licensing component K) it stands to reason that a simple preposition like *behind* consists of the same three parts abstractly, essentially following Ruwet.

2. Cross-linguistic motivation

Traditionally, complex prepositions are usually treated as unanalyzable idiomatic units. The decompositional analysis of complex spatial prepositional constructions makes stronger predictions, for example that the middle part should identify an axial part (compare *in back of* with *in front of*), and that the outer part should determine such notions as proximity versus contact versus projection (compare *in front of* with *on top of*). In other work (Svenonius to appear; 2008), we show how the decompositional structure makes other accurate predictions, when coupled with an appropriate semantic analysis of the individual parts (see also Starke 1993).

An analysis based on this decomposition has been extended to many languages, including Japanese and Korean, Persian, Kannada, Bantu languages, and many others (e.g. Pantcheva 2006, Muriungi 2006, Svenonius 2006, Amritavalli 2007). To give two examples, a Japanese PP (as discussed by Ayano 2001, Takamine 2006) is illustrated in (2a), and a Tzeltal relational noun (as discussed by Brown 1994 and Levinson 1994) is exemplified in (2b).

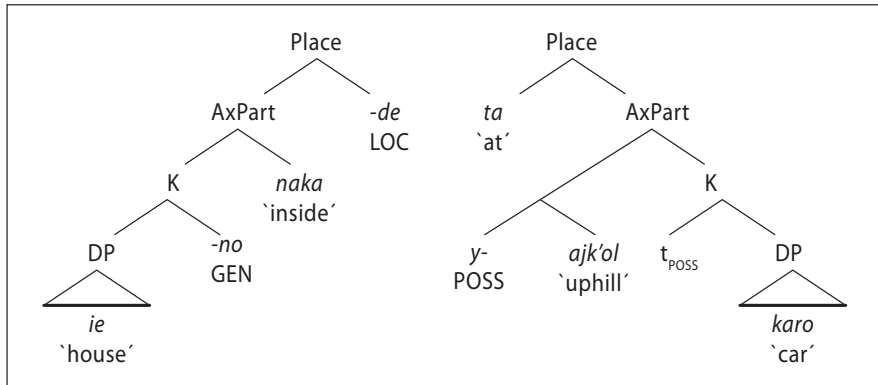
- (2) a. Mary-wa ie-no naka-de hashit-ta.
Mary-TOP house-GEN inside-LOC run-PAST
 'Mary ran in the house' (Japanese, Takamine 2006)

b. Tek'el ta y-ajk'ol karo te winik-e.
standing at POSS-uphill car the man-CL
 'The man is standing uphill of the car'(Tzeltal, Brown 1994, p. 751)

In (2a), K is genitive case, the AxPart is *naka* 'inside', and Place is spelled out by the locative suffix or postposition *-de*. In (2b), the AxPart is expressed by *-ajk'ol* 'uphill', and the Place head is *ta* 'at'. K is the possessive *y-*. Brown and Levinson note differences between Tzeltal relational words and body part nouns like *chikin* 'ear', for example the fact that the latter are sensitive to the shape of the Ground. On our account, such differences follow from the fact that AxParts like *ajk'ol* are not nouns.

We suggest that such PPs have the same compositional structure as their French and English counterparts, which accounts for their having the same kinds of denotations. The surface differences have to do with the order of the terminals: Japanese is head-final, and the K morpheme in Tzeltal cliticizes to the AxPart head.

(3)



3. French Complex Spatial P

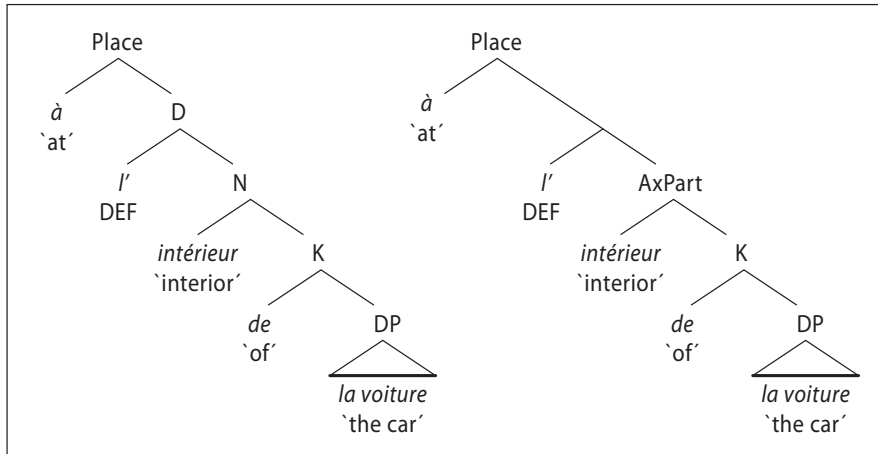
The words identified by Borillo (1988 ; 1999 ; 2001), Aurnague (1996) as *noms de localisation interne* (NLI) are presented in (4). They are based on what we are calling AxParts; cf. also Roy (2006) on body part expressions used as AxParts.

(4)

	P	NLI	P comp régime	
'in'	dans	le dedans	au dedans de	en dedans de

‘on’/‘above’	sur	le dessus	au dessus de	par dessus
‘under’	sous	le dessous	au dessous de	en/par dessous (de)
‘in front of’	devant	le devant	au devant de	
‘before’	avant	l’avant	à l’avant	en avant de
‘behind’	derrière	le derrière		par derrière
‘behind’	arrière	l’arrière	à l’arrière de	en arrière de
‘around’		?le tour	autour de	
‘along’		?le long	au/le long de	
‘across’		?le travers	au travers de	à travers
‘beside’		le côté	au/du côté de	à côté de
‘at the base of’		le pied	au pied de	
‘in front of’		la face		en face de

For several of the AxParts here, it is clear that they have been reanalyzed historically from noun phrases, and in fact, several of them retain the definite article. What this means is that a structure like that on the left in (5) can be reanalyzed by a generation of speakers into a structure like that on the right; at this point, a word like *intérieur* is grammaticized as an AxPart and will have AxPart semantics, rather than or in addition to its use as a noun (we are unsure about the structural status of the vestigial definite article, and so leave it unlabelled in the tree on the right).



Synchronically, AxParts can be distinguished from nouns by a host of syntactic tests. For example, only nouns can form plurals, be modified by adjectives, be substituted for by pro-forms like *one*, and so on. When a word is grammaticized as an AxPart, it loses these capabilities (Svenonius 2006).

For a while, of course, a word may retain an ambiguity. Thus a word like *côté* can be used as a noun, as in (6a), but when it is used as an AxPart, it cannot be modified by an adjective, as illustrated in (6b) (Roy 2006).

(6) a. *Le côté ombragé de la maison est couvert de vigne.*

the side shady of the house is covered of vines

‘The shady side of the house is covered with vines’

b. *Il y a des vignes à côté (*ombragé) de la maison.*

it there has of the vines at side shady of the house

‘There are vines beside the house’

The theory, developed for spatial prepositions, can be extended to other classes of complex prepositions as well. We will consider two cases below, temporal prepositions of the type *autour de* ‘around’, *à la fin de* ‘at the end of’, and causal prepositions of the type *à cause de* ‘because’, *afin de* ‘in order to’.

4. Extension to Temporal P

It is well known that temporal expressions can develop historically from spatial ones (for a discussion of Romance prepositions in particular, see Fagard 2006). A notable difference between the spatial dimension and the temporal dimension is the switch from three dimensions to one. This difference aside, however, the tripartite analysis developed above

for spatial Ps can be easily shown to accurately decompose temporal Ps, as illustrated in (7) as well (assuming that *autour* is decomposable into the Place head *à*, the article *le* and the AxPart *tour*):

- (7) *autour* *de Noël*
at. the. turn *of Christmas*
 ‘around Christmas’

In these cases, the element that we referred to as KP denotes not a set of points in space, but a set of points on the time line. AxPart is a function from the temporal ‘region’ denoted by KP (a portion of the time line) to some subpart of that, named by the word lexicalizing AxPart.

For example, *tour* in space will select a kind of circle around the Eigenplace, while *tour* in time (as in (7)) will select the temporal equivalent, i.e., the temporal ‘region’ directly before and after the referred-to event denoted by the Ground. Concretely, this means that in *autour de Noël* the Ground is *Noël*, the KP is a particular interval on the time line conventionally related to *Noël* (probably its duration), the Region denoted by the AxPart *tour* is the set of points which are ‘around’ that interval (on either side) from which the Place element *à* projects a time period before and after Christmas.

While certain temporal prepositions allow ambiguously spatial senses (like (7) above, as well as examples (8) to (10), below), others are purely temporal (cf. (11) – *début* does not have a distinct spatial use, assuming that expressions such as *au début de la rue* ‘at the beginning of the street’ involve ‘fictive motion’ in the sense of Talmy 2000, chap. 2).

- (8) a. *aux environs* *de 17h*
at. the surroundings *of five. o'clock*
 ‘around five o'clock’
- b. *aux environs* *de la rue* *St. Jacques*
at. the surroundings of the street *St. Jacques*
 ‘around St. Jacques Street’
- (9) a. *tout au* *long de la* *nuit*
all at. the *long of the* *night*
 ‘all throughout the night’
- b. *au long* *de la* *rivière*
at. the long *of the* *river*
 ‘along the river’
- (10) a. *à l'entrée* *de* *l'hiver*
at the. entry *of the.* *winter*

- ‘at the beginning of winter’
 b. à l’entrée de la maison
at the. entry of the house
 ‘at the entrance of the house’
 (11) a. au terme de ses efforts
at. the end of his efforts
 ‘after his efforts’
 b. à la fin du siècle
at the end of. the century
 ‘at the end of the century’
 c. au début de sa carrière
at. the beginning of his career
 ‘at the beginning of his career’

The specialization of *terme*, *fin* and *début* for time, however, seems to be a matter of semantic selection (s-selection) rather than featural or syntactic subcategorization (c-selection) (see Chomsky 1965 on the distinction). If this is correct, then this selection is similar to the case of a verb like *drink* selecting for liquids exclusively (s-selection), rather than the case of a verb like *dine* subcategorizing for a PP (c-selection).

5. Extension to Causative P

The extension of the tripartite analysis to complex causal prepositions of the type illustrated in (12) is possible at the relevant level of abstraction.

- (12) a. à cause de
at cause of
 ‘because’
 b. afin de
at. end of
 ‘in order to’
 c. de façon à
of manner at
 ‘in order to’

As observed by Talmy (2000), the GROUND expresses the CAUSE, while the FIGURE designates systematically the *resulting event* (or effect, consequence) (cf. also Iordanskaja and Arbatchewsky-Jumarie 2001).

Just as a Ground in physical space is surrounded by various regions which can be named by an AxPart in order to locate a Figure of interest

(the *above* region, the *behind* region, etc.), an event can be conceptualized as a Ground in a causal space, surrounded by event classes which can be named – those which are *motivated* by the Ground, those which are *enabled* by the Ground, those which are *forced* by the Ground, and so on. Concretely, in (13), for instance, the Figure expresses a *consequence*, and the Ground a *cause*; in (14) the Figure expresses a *preparatory event*, and the Ground a *motivation/goal/objective*; in (15), the Figure expresses a *successful event* and the Ground an *ineffective hindrance*; in (16) the Figure expresses a *conditional event* and the Ground a *requirement*; and in (17) the Figure expresses an *enabling event* and the Ground a *goal/motivation*:

(13) [Paul a annulé son voyage] Figure à cause de [Marie] Ground

Paul has cancelled his trip at cause of Mary

‘Paul cancelled his trip because of Mary’

(14) [Les sans-papiers doivent s’unir] Fig. afin de [defendre leurs *the*.

PL without-papers must REFL. unite at. end of defend their droits] Gr. rights

‘Illegal workers must unite in order to defend their rights’

(15) [Nous sommes allés voir le film] Fig. en dépit des [mauvaises

we are gone see the film in despite of. the. PL bad critiques] Gr.

reviews

‘We went to see the movie despite the bad reviews’

(16) [Nous pouvons encore arriver à l’heure] Fig. à condition de [partir

we can still arrive at the-hour at condition of leave maintenant] Gr.

now

‘We can still arrive on time on the condition that we leave now’

(17) [La veine a été nettoyée] Fig. de façon à [laisser le sang
the vein has been cleaned of manner at let the blood circuler] Gr.

circulate

‘The vein has been cleaned in such a way as to let the blood circulate’

The causal relationships expressed by the various French causal prepositions are summarized in the table below:

Resulting event (Figure)	Causing event (Ground)	P
Consequence	Cause	<i>à cause de</i> ‘because’
Preparatory event	Goal/Motivation	<i>afin de</i> ‘in order to’
Enabling event	Goal/Motivation	<i>de façon à</i> ‘in order to’

Enabling event	Goal/Motivation	<i>de manière à</i> ‘in order to’
Conditional event	Requirement	<i>à condition de</i> ‘on condition’
Ordered consequence	Cause	<i>à la suite de</i> ‘as a result of’
Successful event	Ineffective hindrance	<i>en dépit de</i> ‘in spite of’

Compare the categories postulated by Talmy, in his work on Force dynamics (2000, chap. 6-8), given in (19):

- (19) a. Reason : Figure happens *because of* Ground (Reason)
 b. Concession : Figure happens although Ground (Hindrance)
 c. Substitution : Figure happens instead of Ground (Model)
 d. Causation
 (i) Nonagentive : Figure happens from Ground (Cause)
 (ii) Agentive : Figure happens by Ground (Action)
 (iii) Enabling : Figure happens as a result of Ground
 (Enabling cause)

For causal Ps, KP has to function as a mapping not from objects to the spaces they occupy (spatial Ps), nor from events to the times that they occupy (temporal Ps), but rather from objects or events to other events, e.g. the events that they cause. For example, *cause* selects a simple Cause, *manière* selects an Enabling Cause, *fin* selects a Goal Event, *condition* selects a Requirement, and so on. From the set of (all possible) events caused by the Ground, the AxPart selects a subpart. The Place expressions *à* and *de* express a relation between the Cause identified by the AxPart and the Resulting event (i.e., the Figure).

Concretely, in (20), KP is the set of all possible event-types which are ‘downstream’ of *les décisions récentes du gouvernement* in a causally structured conceptual domain (mapping of the Ground event into all events that it can cause) and the AxPart *suite* ‘continuation’ selects a subpart, the set of all consequences in that domain. Place establishes a relation between *les manifestations* (the Figure) and the causally related consequences identified by the AxPart :

- (20) Les manifestations ont commencé à la suite des
the. PL demonstrations have started at the continuation of.
the. PL
 décisions récentes du gouvernement
decisions recent of. the government
 ‘The demonstrations started as a result of the government’s recent
 decisions’

The truth conditions of the sentence, then, require that the demonstrations be among the ‘consequence’ subset of the set of all events which are causally downstream of the decisions.

6. Conclusion

Our investigation leads us to identify a common strand running through the collection of spatial, temporal and causal French complex prepositions, despite their apparent heterogeneity (cf. Gross 1981, Gaatone 1976, Adler 2001, for instance). Complex prepositions have a common semantic core represented by the same three pieces, namely Place, AxPart and K, at the relevant level of abstraction.

The account supports a division between two components of meaning. The first is a conceptual component contributed by individual morphemes in the lexicon, including rich descriptive content sufficient to distinguish *front* from *back* but also the various entailments and implicatures of *à cause de* from those of *à condition de*, and also *cat* from *dog*. The other is a lattice of what Talmy (2000, chap. 3) calls the ‘fine structure’, with relatively less descriptive content but with an important contribution to truth conditions. Here resides the difference between regions and vector spaces, between paths and locations, between predicates and arguments.

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The development of Merge and Recursion as generative processes in the transition from single words to sentences¹

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The Minimalist Program (Chomsky, 1995), reducing the fundamental complexity of grammatical processes to merge and recursion, has potential for providing a developmentally flexible model for the path from initial two-word productions to full adult grammatical structure (Ninio, 2006, 2011; Roeper 2007, 2011). We investigate the earliest predicative combinations produced by three English-learning children, tracing the development of their grammatical systems over the first four months. The study of verbs and their arguments leads to the hypothesis that the application of merge emerges such that initial limited application is followed by broader application to a full range of linguistic environments. We take early developmental work (Werner & Kaplan, 1963) as inspiration for understanding this development (McCune, 2008). Application of symmetrical and asymmetrical merge, as well as recursion (defined as nested asymmetrical merge) show individual differences in development. We demonstrate that direct measurement of the grammatical complexity of children's combinations provides information beyond MLU alone. We find that a generative developmental approach is effective for the analysis of early child language, allowing for assessment of growth in a manner continuous with analyses of the adult system, and capable of elucidating individual differences in development.

1. Introduction

In the study of early child language, the transition from single words to sentences remains controversial. While from any perspective, sentences are combinations of words, there is little consensus on the nature of these combinations and the type of knowledge a child engages when combining words in early productions. The issue lies in the extent to which early combinations of words are generated by a grammatical combinatorial system or not. In this paper we investigate the applicability of current generative theory (Chomsky, 1995) to children's early language by analyzing the combinations including a predicate and at least one argument. We address specifically the question of whether the assumption, based on this approach, that children develop a combinatorial generative grammar from the beginning can explain the types attested, the systematicity of (apparent) 'erroneous' productions, as compared to adult language, and individual variation in this respect. To accomplish this goal we study the productions of three English speaking children during their first four months of combinatorial language.

This debate has thus far seen little to no input from general theories of child development. In this paper, we take McCune's (2008) analysis of an early (1963) child development work by Werner & Kaplan as inspiration for our account of how children begin to combine words.

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2. Background

When Roger Brown (1973) published “A First Language: The Early Stages” the goal of the initial foray into early language productions was clear: articulating the underlying grammatical basis for the combinations of words that children produced. While developmental researchers had attempted to fulfill the early hope that Chomsky’s (1957, 1965) original program could be used to analyze children’s first combinations (e.g., Bloom, 1970; Bowerman, 1973; McNeill, 1970), by the time of Brown’s writing the complexity of generative theory and the processes that needed to be analyzed in relation to children’s apparently simple productions had led developmental researchers to question the utility of transformational generative grammar, based on adult language, as an approach to child language. Generative theorists largely abandoned any general study of the transition to sentences, focusing instead on the acquisition of topical phenomena as evidence for a more general theory of language acquisition.

Alternatives to generative grammar emerged, at least in part, in reaction to the complexity and relative implausibility of existing generative attempts prior to Chomsky (1995) for addressing very early language, as well as from a general hesitance to accept a modular language faculty as innate and separate from other cognitive functions. It should be noted, however, that innateness of grammar and modularity of language in the brain do not *logically* follow from the use of a generative, i.e. combinatorial, grammar; eschewing the idea of an innate, narrowly-specialized language faculty would not by itself rule out a combinatorial grammar (e.g., Jackendoff & Pinker, 2005).

In developmental approaches, Braine’s initial (1963) purely distributional analysis was abandoned in favor of semantic analyses (e.g., Braine, 1976; Schlessinger, 1971, 1974), but this approach re-surfaced as the limitations of semantic analysis were also recognized (e.g., Bowerman, 1973; Pine, Lieven & Rowland, 1998; Maratsos & Chalkley, 1980). Combinatorial power is again attributed to the learned order of surface patterns. Distributional analysis, in revamped form (e.g., Lieven, Behrens, Speares & Tomasello, 2003), and scepticism regarding the generative creativity of child word combinations have been hallmarks of early language research ever since (e.g., Tomasello, 1992; 2000; Lieven, Pine, & Baldwin 1997).

The most influential current approach is based on Construction Grammar (e.g., Tomasello, 1992, 2000, 2003; Croft, 2001; Croft & Cruse, 2004; Fillmore, Kay, & O’Connor 1988 ; Goldberg, 2003, 2006; Barðdal 2008.). In Construction Grammar, the basic building blocks of language are constructions, defined as: “learned pairings of form with semantic or discourse function, including morphemes or words, idioms, partially lexically filled and fully general phrasal patterns” (Goldberg, 2006: 5). In this framework both sequences of specific words as well as grammatical patterns such as SV and VO are considered to be learned constructions with slots for lexical items. Rather than considering the verb and its valency patterns as the core of predication, construction grammars consider all lexemes, as well as some phrases, to be equivalent slot-fillers. Constructivist theories of the transition to adult-like sentences (e.g., Tomasello, 2000) rely on a usage-based generalization of constructions (though

as Sag, Boas, & Kay, 2012, point out, this position is logically independent of Construction Grammar). According to this approach, in contrast with generative views (e.g., Chomsky, 1995; Ninio, 2011) grammatical development is deferred until some point later in development than the period of first sentences.

The emergence of simpler generative theories, particularly the Minimalist Program (Chomsky, 1995, and subsequent works), has made it possible to revisit the idea that syntactic combinations of words are relevant to children's transition to sentences (Roeper, 2007; Ninio, 2011). Ninio's recent work (2006, 2011, 2014) argues that children's learning of verbs is best understood from a generative perspective compatible with both the Minimalist Program and Dependency Grammar (Hudson, 1984), as opposed to from a Construction Grammar perspective. Both Minimalism and Dependency Grammar build hierarchical structures with repeated iteration of a simple combinatorial operation that puts two elements together. This simplicity means that it is now possible to investigate child grammar from the perspective of generative theory in a cognitively plausible way, by using the same tools we use to analyze adult grammar. As Ninio points out, "The great advantage of such a theory of syntax for developmental modelling is that it is simple and feasible as a cognitive system employed by human speakers" (Ninio, 2014: 3). The use of Minimalism, which will be further demonstrated in this study, gives us a way to examine different grammatical relations, such as subject or object, independently of the sentences where they appear (i.e., independently of the lexical verb employed). As has been argued (e.g., Dowty, 1979; Jackendoff, 1997), the fact that a given syntactic relation (such as the relation of a subject to a verb) can be associated with multiple semantic relations (agent, experiencer, etc.) indicates that a distinction must be made between syntactic and semantic relations. However, Construction Grammar approaches largely oppose the adoption of abstract grammatical relations such as "subject" (e.g., Croft, 2001; Barðdal, 2006), instead attributing the relevant properties to constructions.

Linguistic analysis in combination with developmental considerations provide the strongest base for approaching questions that are both linguistic and developmental. A useful, yet mostly overlooked, insight is found in Werner & Kaplan (1963). They proposed that children produce only single words for some time because these words are deeply embedded in context, including both child attitude and object characteristics in their underlying meaning (McCune, 2008). In order to participate in grammar, an abstract symbolic system, words must 'shift function', in a sense taking on abstract linguistic properties that allow their integration into the grammar of a language.

Werner & Kaplan claim, using examples from diary studies available at the time, that in the very earliest two-word utterances, integration across the words in the combination comes from the mutual attachment of both words to the child's current focus, rather than from their role as sentential elements. When true sentences occur, the integration of constituent words is accomplished by linguistic relationships among the elements, that is, syntactic relationships rather than relationships to child focus or context, or relationships between individual lexical items as such.

This early developmental insight corresponds quite neatly to the underlying idea in most formal grammar frameworks that words are both meaningful (i.e., bear some relation to the world) and linguistic (i.e., they have a grammatical role in a particular linguistic combination). It is not controversial to think that the meaningful role of words may be acquired early on; the controversial question, rather, is how the linguistic or grammatical roles of words develop, in such a way as to make sentences possible. Werner & Kaplan make a case for gradualism, that is, the transition to grammatical production may begin piecemeal. The Werner & Kaplan analysis stops short, however, of providing guidance with respect to the precise development of linguistic processes—namely, how children come to combine words in grammatical multiword utterances.

In the current work we address this task in terms of the Minimalist Program (Chomsky 1995), specifically, the application of two variations on the basic combinatorial operation Merge, as well as recursivity. Because child and adult grammar can be analyzed using the same tools, it becomes possible both to characterize the grammar of child utterances across time and to develop a generative account of the transition from early child productions to adult grammar. From this perspective, then, what the child acquires is the ability to use Merge, as well as recursion in progressively more adult-like ways. As should be clear, this approach is both generative and developmental and has potential for providing a flexible model for the path from initial two word productions to full adult grammatical structure. In particular, we will argue that rather than an “all or nothing approach” to aspects of linguistic knowledge, minimalism can accommodate a developmental approach, such that initial application to certain sorts of material is followed by broader application to a full (target) range of linguistic environments. Crucially, this view is also compatible with a large role for the input in explaining how a fully abstract adult grammar develops via universal combinatorial operations—whether mediated by initially item-related development, statistical learning (e.g., Yang, 2011; Kowalski & Yang, 2011), or both.

Since our approach is based on the development of grammatical structures, we have the opportunity to analyze specific aspects of the development/increase of syntactic complexity in children’s productions. MLU (*mean length of utterance*) has long been a stand-in for grammatical complexity, but as Le Normand et al. (2013) indicated, it is not the equivalent of such complexity. Recall that MLU was developed (Brown, 1973) as a proxy for grammatical development (e.g., Leadholm & Miller, 1992). A more nuanced grammatical measure is possible when recursion is assessed directly in child utterances. A measure of *maximal syntactic depth* can be defined as the maximal depth of recursive embedding (i.e., the maximal number of embedded asymmetrical merges) during a single session. As we will see, such a measure has the potential to provide direct information about grammatical development—crucial to understanding the transition to sentences.

Unlike classic work such as Brown (1973) and recent quantitative approaches (e.g., Pine, Lieven & Rowland, 1998) we do not address the establishment of competence with particular linguistic structures. Rather, we seek to characterize the grammatical nature of children’s earliest sentences and their development.

3. General assumptions

We take a conservative approach that consists in documenting the use of the combinatorial operations in productions, remaining agnostic for the sake of this paper as to whether or not children's internal grammar is more complex than it seems from their productions (as is generally suggested by comprehension data, and commonly assumed in generative approaches to acquisition). Our approach is, in fact, compatible with the two views. Under an assumption that children do not have a complex internal grammar, analysing what they use equals analysing what they have and how it develops through time. If, on the other hand, children do have an internal grammar, it is still an important issue why children's early productions are so different from adults' in the related target language. Hence, independently of whether a mental representation of syntax is assumed or not, an analysis of production data can help advance our understanding of children's initial use of grammatical operations, and the way such use develops in the early period.

This study is based on the following particular assumptions. We first assume that a grammar is defined by one or a set of operations that generate combinations. Accordingly, all attested children's multiword productions (first of two words, then of more than two words) must be generated by such a grammar; i.e., they are the product of a defined combinatorial system. We assume that Merge, which combines two elements, is the basic operation in children's grammatical systems. In this general picture we follow Roeper (2007, 2011).

We assume two types of Merge operation (or equivalently for our purposes, two kinds of semantic composition associated with a single kind of merge): symmetrical merge (adjunction) and asymmetrical merge (e.g., Chomsky, 2001; Citko, 2011). Symmetrical merge (also to be identified with Tomasello's "concatenation"; 1992: 225-6, e.g., as well as Lieven et al.'s "juxtaposition"; 2003: 264, e.g.) combines two words or linguistic units together to form something akin to a list, a concatenated or juxtaposed sequence.² Symmetrical merge is a concatenation, in which two elements are combined symmetrically, thereby creating unstructured sequences (A + B). In asymmetrical merge, on the other hand, two elements are combined but one is the "head" of the phrase formed by combining the two elements and the other a dependent, and the result is a structured ordered linguistic unit ([[A] B], e.g., where A is the head) that can be further combined in a recursive manner (e.g., [[[A] B] C]). We assume, therefore, a contrast

² Roeper (2007: 53) claims that children do not produce symmetrically-merged structures such as *mommy daddy*, *hat coat*, or *said ate*. However, utterances that must, whatever the analysis, involve such symmetrical structures are found among the utterances of one of the children in the present study (Alice): *baby coat hat off*, *put hat coat on*, *get coffee tea*, *look that mommy daddy*, *play eat make tea*. This is probably due to the fact that our data comes from very early productions. Our symmetrical merge is semantically similar to Roeper's (2011) "direct recursion". Like Roeper, we treat this operation as non-structure-building (Roeper, 2011: 61). Roeper's use of rewrite rules as opposed to merge operations leads him to call this operation a kind of recursion. However, we find it makes more sense to treat "recursion" as something that only occurs with structure-building operations. Our use of merge operations makes this possible. (See the introduction to Zwart, 2011, e.g., for a discussion of rewrite rules as opposed to merge operations.) It should also be underlined that we use the word *recursion* to refer to all and any instances of nested asymmetrical merge; we do not reserve the word for *sentences* nested or embedded within other sentences (*Mary knew that John was there*).

between mere concatenation/juxtaposition versus one or more truly structure-building operation(s). Notably, symmetrical merge could reasonably characterize the earliest two-word combinations reported by Werner & Kaplan, where the sequence of two words would correspond to a concatenation of single (pre-grammatical) words. Roeper (2011) finds concatenative semantics typical of child language, used more frequently than in adult grammar.

The two kinds of merge map with two distinct semantic possibilities. To say that something is a *green cup* is to say that something is a cup and is green. The denotation is the intersection between the set of green things and the set of cups; it corresponds to the semantic rule of Predicate Modification (Heim & Kratzer, 1998) —which is interpreted as a kind of semantic concatenation: ‘x is green and x is a cup’. Predicate Modification is also commonly believed to be the kind of semantic combination involved in cases of adjunction (*yesterday he came / he came yesterday*). We also treat as symmetrical merge cases of adjunction where the meaning of one element does not interact with the propositional or at-issue meaning of the rest of the utterance, i.e. it contributes a discourse-related meaning: interjections such as *oh* and vocatives (*take hat off too mommy*).

In contrast, with a verbal head and an object dependent, such as *eat pasta*, we are not looking at mere concatenation of meaning: *eat pasta* in the adult language does not refer to something that is an eating (event) and at the same time is pasta. The meaning of *eat pasta* is, then, not composed by symmetrically combining the meanings of *eat* and *pasta*. Rather, it is composed by applying the meaning of *eat* to the meaning of *pasta*: eating is what is done to the pasta. Thus the meaning is composed asymmetrically.

However, with a child uttering *eat pasta* it is also possible that they could have a symmetrical meaning in mind: ‘x is (an) eat(ing) situation and x is a pasta situation’. (Here the x would refer not to the pasta itself but to the situation at hand: this situation is both an eating situation and a situation in which there is pasta.) In such utterances, therefore, we simply cannot tell whether the merge is symmetrical or asymmetrical.

The inclusion of words with purely grammatical function, on the other hand, (e.g., *it* in *eat it*) insures that asymmetrical merge is being used. We assume, with Werner & Kaplan, that words children have produced in the one-word stage must shift function to participate in sentences. They argue that single word productions function as “designators ... used by the individual to refer the hearer to an event present perceptually”, while words in combination, integrated as linguistic symbols via a grammar, “are used by the individual to indicate to the hearer how he, the speaker, conceives of relations among referents” (Werner & Kaplan, 1963, p. 138).³ However, certain types of words arguably exist *solely* for their grammatical function. The

³ To translate this idea into formal language, we could imagine that all words that children use in the one-word stage are all essentially predicates of situations; that is, their meanings relate to the situation they are experiencing but not to the meanings of other words. At some point during the two-word stage, the meanings of words can relate to more than just the situation: some may still be predicates of situations, while others may become, for instance referring expressions, or most pertinently for the current proposal, they may be predicates that take as an argument the meaning of another word.

rationale is that these elements cannot be used in isolation, and hence cannot have direct relationships to the world outside of their use in linguistic combinations. So, for instance, *eat it* is unlikely to mean ‘x is (an) eat(ing) and x is *it*’, since *it* does not refer to a property in the world that can be said to hold of x, nor does *it* refer to a consistent, semantically-based, set of entities as a lexical noun would. Another pertinent point is that weak pronouns⁴ in predicate-argument combinations, like other functional material, cannot plausibly be interpreted as combining their meaning symmetrically. Functional words such as (weak) pronouns, therefore conform, by definition, to Werner & Kaplan’s requirement for linguistic “symbols”, unlike content (lexical) forms. For us this means that functional words can only participate in asymmetrical merge, not symmetrical merge.

While children’s early productions are known for lacking functional material such as tense markers, determiners, and so on, recent studies (e.g., Pine et al., 1998; Le Normand et al., 2013) have documented functional material in early combinations. The frequent use of personal pronouns, in particular first personal pronoun *I* has long been attested (e.g., Huttenlocher, Charney & Smiley, 1983). A core argument of our study will come from the distribution of weak pronouns in argument positions. However, non-pronominal functional material also has a role to play. In particular, using functional material to diagnose instances of asymmetrical merge makes feasible the possibility of directly measuring language complexity at a given time for a given child.

When the output of an asymmetrical merge is itself asymmetrically merged to another element, we say that asymmetrical merge is applied *recursively*. Recursion in this sense is the (hierarchical) nesting of asymmetrical merge under asymmetrical merge, and can be represented as follows: [*I* [*open* [*box*]]], or in general, [A [B [C]]], [A [B [C [D]]]] and so forth. Recursion, that is, multiple nested application of asymmetrical merge, thus creates a more complex structure than a single instance of asymmetrical merge. Note that it does not make sense to speak of recursive application of *symmetrical* merge per se, since multiple applications of symmetrical merge do not result in a more complex structure.

The assumption of two types of Merge, applied to studies of child language for the first time in this paper, immediately suggests an inventory of logically possible structures for early productions. Because we are interested in documenting the ways in which children’s early productions exhibit a form of systematicity, and the ways in which this systematicity is generalized over different categories, we will identify, so far as possible, the type of merge involved for each combination. Again, the goal is to characterize the grammar that children *use* at a particular stage and not necessarily the grammar they “have” (and we know from comprehension data, for instance, that children understand more than they produce).

⁴ Pronouns are typically divided into three categories: strong pronouns, weak pronouns, and clitics. Traditionally, strong pronouns are those that can bear stress and can be separated from the verb; weak pronouns cannot be split from the verb or bear stress. In English, most pronouns have a weak form and a strong form (distinguishable by their distinct intonation patterns); but the difference is also visible when used in isolation, e.g., “-Who did that? -Them! / *They!”, where *them* is a strong pronoun and *they* is a weak form (Cardinaletti, 1993; Cardinaletti & Starke, 1994).

Accordingly, we will start by analyzing the types of merge involved in their actual productions, with the assumption that the variety and systematicity of the applications of these operations in production can inform us on the development of grammar.

A two-word utterance, for example, could in principle either be a case of asymmetrical merge or a case of symmetrical merge.⁵ To combine more than two words together, the child could, for instance, use several instances of symmetrical merge (e.g. A + B + C + D). But she might instead use only asymmetrical merge, creating a recursive structure such as [A [B [C [D]]]]. A third possibility is to use a combination of asymmetrical and symmetrical merge, i.e. [A] + [B [C]]+ [D] or [A [B]] + [C [D]], leading the way to the diversity of structures found in the adult language.

As will become clear, analyzing the application of merge operations as they are visible on the surface is *sufficient* to argue that children develop a combinatorial grammar. The merge operations as used by children may, however, relate to typical adult structures in a variety of ways. For example, the structure of a particular production by an individual child may not match the structure of the corresponding string in the adult target grammar, or indeed the outcome of the application of the merge operations may form sequences that are different from what we would expect in the adult language. The application of both kinds of merge does not necessarily develop monotonically toward the adult target; that is, at an intermediate point in development, the child may merge two elements that adults do not merge, although globally we expect development toward the adult grammar. Thus our working hypothesis on children's productions that are "incomplete" compared to adult productions (e.g., *drive truck, I open box, Oscar mean*), is that they are perfectly grammatical in the sense that they are constructed according to the merge operations that are identical to adult merge, although the domain of application of these operations differs. In other words, the asymmetrical merge combination may be that of a predicate and an argument, for instance, a canonical case for asymmetrical merge, even though the adult utterance would add other intervening merged functional elements.

The child may initially apply merge operations in only a few linguistic environments, and what would then develop through time is the application of both kinds of merge, as well as recursion, in a broader set of environments. So, what develops, from our perspective, is not the processes of asymmetrical and symmetrical merge, or indeed of recursion, but rather their environments of application. The proposition that children, like adults, have two merge operations does not entail that children will use them "appropriately" in all and exactly the environments where adults use them. The term "(linguistic) environment" can be understood to make reference to words (e.g. *eat, fish*; or *I* vs. *you*), categories (e.g. pronouns vs. lexical nouns), or grammatical positions (e.g. Subject vs. Object position). The exact target range of environments in which asymmetrical and symmetrical merge are applicable should vary by language, in part because different languages have different inventories of functional material.

⁵ Indeed, as Powers (2002) argues, the very existence of a discrete two-word stage supports the idea of merge as a basic building block of language.

Moreover, the exact developmental route is expected to vary by individual child as well. Our focus in the present study is on the variation in individual development.

4. Hypotheses

1. The application of symmetrical and asymmetrical merge develops and this development can vary by child.
2. The application of recursion develops and this development can vary by child.
3. Direct measurement of the grammatical complexity of children's combinations is possible, and provides valuable additional information about development, compared to using MLU alone.

5. Method

To investigate these hypotheses, we conducted three case studies of children acquiring English. Although, as we have seen, it is not always possible to confidently assign a single structure to a given child production, nonetheless the methodology presented here can provide reliable information about a child's development of symmetrical merge, asymmetrical merge, and recursion. We initially restrict our focus to a relatively secure subset of combinations: arguments of predicates (for VO, SV and SVO) and consider how the arguments are realized. Pronouns, likely to occur as arguments in such utterances provide a way to diagnose asymmetrical merge. The criteria for the two kinds of merge are given below in section 4.4.

5.1 Data

Three children (two girls and one boy) were video recorded monthly at home. Every month the situation was the same. Mother and child were seated on the floor with a bucket of toys placed near them. Video-recording continued for 20 minutes, at which time a subset of the toys designed to elicit representational play was arranged on the up-ended bucket. Play and interaction continued for an additional 10 minutes.

The language of mother and child, and accompanying context were entered into CLAN transcripts; and they are available in the CHILDES database as the McCune corpus. Utterances including unintelligible material were not analyzed. Expressions that are immediately and directly imitated from maternal speech are noted where relevant, but excluded from the analysis.

5.2 Data analyzed

We reviewed all transcripts to determine when children began producing multiword (i.e., at least 2-word) combinations. Transcripts including at least 5 predicative multiword combination types meeting the criteria for analysis were included in the study. Each unique utterance is considered

as a type. The analysis is based on types, but frequencies were also tallied. For two participants (Aurie and Rick) 21 months was the initial month of analysis, for the third, Alice, analysis began at 18 months. The first four months of combinations were analyzed for all.⁶

Predicative multiword combinations are utterances with at least a predicate and an argument expressed. This includes utterances with lexical verbs or with a predicational copula introducing a predicative adjective or prepositional phrase, whether the copula is expressed or omitted. *Wh*-questions were not included, because they do not have a mere canonical SVO syntax (in the adult grammar) and hence are not directly informative regarding the child's basic grammatical system for SVO.

5.3 Criteria for categorizing arguments

For each utterance type we identified potential subject and object constituents. Subject vs. object is determined by watching the video and examining the transcripts. Because of the unusual order in some early productions this process is not straightforward. If the referent is an agent/holder,⁷ we count the element that refers to it as a subject, and if the referent is a patient, we count the element that refers to it as an object. For instance, see the atypical order *this hold* (Aurie, 22 months), where watching the video tells us that *this* refers to the object although *this* appears before the verb, because it visibly refers to the patient. We used the child's intonation to distinguish whether an utterance such as *Mommy do it* is to be analyzed as the recursive [Mommy [do [it]]], in which Mommy is the agent of a doing action, or the non-recursive Mommy + [do [it]], in which *Mommy* is a vocative adjoined (symmetrically merged) to an imperative sentence with no realized subject.

We then categorized the arguments into the following grammatical categories, both because of potential developmental difference in the timing of their use, and because of the special linguistic status of pronouns:

Pronoun: e.g., *I, it, them, one, something*

Deictic: *that/this*

Lexical noun: e.g., *fish, the boo-boo, my fish, Oscar's cup, this fish*

Name: Proper name indicating a specific person, e.g., *Oscar, baby* (the latter only when the child is treating it like a name, i.e., uses it in sentence-initial or sentence-final vocatives)

⁶ Where video was longer than 30 minutes, only the first 30 minute segment was included in the analysis.

⁷ Holder refers here to the holder of a state (the cup in *The cup is green*, Margot in *Margot is cute / loves ballet*) and is associated with the subject position of a stative predicate, either adjectival, prepositional or verbal.

- Other: Quantifiers (e.g., *more, some*), small clauses (e.g. *floor clean* in *make floor clean*), verbal phrases (e.g., *play* in *I want play*), prepositional phrases under verbs (e.g., *with that* in *play with that*).
- Omitted: The argument structure of the verb predicts the realization of a particular object or subject (e.g. the verb is transitive as opposed to intransitive, unergative as opposed to unaccusative) in adult grammar and this element is missing from the child’s utterance.⁸

We note that production of words of a particular grammatical category may begin sporadically, where only a single instance is observed. This seemed also to be the case with applications of merge. Such initial sporadic usage can be distinguished from more productive use. As a general methodological rule, we consider that the use of a particular linguistic element (e.g., lexical category, grammatical position, functional material) is attested when we see 2 or more instances of that material in one session, with continued use in subsequent sessions. This protects against false positive errors in our analysis.⁹

5.4 Criteria for diagnosing merge and recursion

The two merge operations are diagnosed in different ways. Symmetrical merge is diagnosed by non-canonical word order (e.g., *truck drive / drive truck*)¹⁰ and intonational cues (for vocative vs. subject, e.g.). Additionally, we considered cases of clearly intersective meaning, such as adjective + noun, to be symmetrical merge.

For asymmetrical merge, evidence that we use comes from functional material.¹¹ There are two ways in which functional material proves relevant for diagnosing asymmetrical merge: directly and indirectly. The more direct way is when purely grammatical elements are merged, such as weak pronouns; determiners: *a, the*; prepositions: *in, up, out, etc.*; possessive ‘*s*’; person

⁸ Note that our use of the term “omitted” is intended to indicate omission only with respect to adult grammar, not with respect to the child’s grammar.

⁹ This follows a similar productivity argument to one found in McCune (1995) for single word use and play level actions.

¹⁰ The possibility of non-canonical word order is indicative of symmetrical merge because the order of the meaning of the combined elements is irrelevant to the meaning: e.g., *x is green and x is a cup* is equivalent to *x is a cup and x is green*. The order of the symmetrically merged elements may be constrained syntactically, however, for reasons that may be independent of their semantic mode of combination. For instance, the order of adjective-noun combination varies across languages; it simply so happens that English only has pre-nominal adjectives, but other languages may have post-nominal ones too or exclusively (cf, French).

¹¹ We have taken a very conservative approach with functional structure; in the absence of morphological evidence for functional structure such as tense, determiners, etc., we don’t assume that such structure is present as “hidden” or “covert” functional structure. While this assumption goes against common thinking in generative approaches, we nonetheless firmly believe in the important insights drawn from actual productions.

agreement; grammatical negation: *not, can't, don't*, copula: *is* ; auxiliaries: *have, be*, and tense.¹² Recall that the reason functional items diagnose asymmetrical merge is because they cannot, under any analysis, be merged symmetrically. Therefore, the presence of a weak pronoun in argument position, as well as the presence of a determiner with a noun, tense markings on verbs, auxiliaries, and so on, indicates that merge is asymmetrical.

The second, more indirect way that functional material allows us to diagnose asymmetrical merge relates to the development of a particular linguistic skill through time. As we said, functional material diagnoses asymmetrical merge. When a child shows productive use of functional material sufficient to suggest a developmental shift in a particular environment, we will assume that the child has shown evidence of capacity to produce asymmetrical merge in SV or VO merges. Now, if that child shows productive use of non-functional material in the same environment (SV or VO, e.g., same basic meaning, same position), at the same time or after, we will assume that they are using their capacity to asymmetrically merge these non-functional items as well.¹³

Recursive structures are those in which at least two instances of asymmetrical merge are nested, one inside the other(s). SVO productions provide good evidence for a child using recursion productively. In adult syntax, the object (often called the ‘internal argument’) merges directly with the verb, while the subject (called the ‘external argument’) merges with the entire predicate (Williams 1981, Marantz 1984, Rappaport and Levin 1986, Borer 1994, Kratzer 1996, among others). The simplest possible view of this asymmetry is to give SVO sentences the structure [S [V [O]]]: V and O are merged together via asymmetrical merge of a head and its complement to form [V O], and the subject is further merged with the complex VO formation, via asymmetrical merge applied again. In the absence of functional material indicating a more complex structure, we adopt this simplified analysis of external and internal arguments which preserves the crucial subject / object structural asymmetry. We identified the instances of recursion in argument-predicate environments by identifying nested asymmetrical merge for each child for each month.

5.5 Procedure for calculating d for a given structure

For the measure of syntactic depth, abbreviated d , asymmetrical merge and recursion were diagnosed the same way as in the argument-predicate analysis, but with additional attention to functional items beyond pronouns and nonfunctional material.

¹² In syntax, Tense is considered an independent asymmetrical merge. Following our rationale for analyzing the data, we take the most conservative approach that consists in counting a Tense/Agreement merge when we have morphological evidence for it. We remain agnostic as to whether absence of morphology in other cases is evidence of *absence* of Tense/Agr or evidence *for* that particular piece of grammatical structure (cf., in particular, Borer & Rohrbacher 1998). As in most linguistic analysis, we take the copula to be the realization of Tense/Agreement in the absence of a lexical verb.

¹³ Note that occasional apparent symmetrical merges may be found even once a child reliably asymmetrically merges two items, for reasons external to their grammar.

The value of d for a given structure is the highest value reached by following the procedure below on that structure:

1. Label with a 0 all matching pairs of brackets that contain one single item.
2. Increase the label (1, 2, ...) for each pair of brackets that include $[x]_0$, recursively, unless there is a conflict with 3. below.
3. The most external number must be bigger than the number on all of the brackets it contains (this is to cover the case where there is a complex subject that is itself asymmetrically merged, however there are no clear examples of this in our data).
4. The largest label written is d .

Examples are below, with the steps in the procedure numbered 1, 2., etc.

- | | | |
|----------------------------|--|--|
| 1. bunny + soft
→ $d=0$ | 1. [I [want [it] ₀]]
2. [I [want [it] ₀] ₁]
3. [I [want [it] ₀] ₁] ₂
→ $d=2$ | 1. [sit [down [with [dolly] ₀]]] + mommy
2. [sit [down [with [dolly] ₀] ₁]] + mommy
3. [sit [down [with [dolly] ₀] ₁] ₂] + mommy
4. [sit [down [with [dolly] ₀] ₁] ₂] ₃ + mommy
→ $d=3$ |
|----------------------------|--|--|

1. [I [fix [them]₀]] + [mommy ['s]₀]
2. [I [fix [them]₀]₁] + [mommy ['s]₀]₁
3. [I [fix [them]₀]₁]₂ + [mommy ['s]₀]₁
→ $d=2$

Note that sometimes an alternative syntactic analysis will not change d :

- | | |
|----------------------|-------|
| [take [hat [off]]] | $d=2$ |
| [[take [hat]] [off]] | $d=2$ |

Though sometimes it will:

- | | |
|--|-------|
| [I [buy [something]]] + [in [that [pocketbook]]] | $d=2$ |
| [I [buy [something [in [that [pocketbook]]]]]] | $d=5$ |

Recall that we have taken a very conservative approach with functional structure that consists in counting merges with functional material only when there is morphological evidence for such functional structure. If, however, our assumption is incorrect, our values for d will seem to be smaller than they actually are for any particular structure. This would not put into question the methodology for defining d itself but rather its domain of application, i.e. the numbers but not the algorithm.

6. Results and Discussion

We first present the children's development of subject and object constituents, next address their application of symmetrical and asymmetrical merge as demonstrated in these productions, and then turn to the development of recursion and the analysis of syntactic depth.

The most notable commonality across children is their tendency to omit subjects in the early months of combination (50-77%; reduced to 25% by the final month for Aurie, while Rick and Alice continued frequent omission: 62% for each in the final month; **Table 1a**). This fact confirms the subject omission stage often reported in the literature (Bloom 1990, 1993; Hyams 1983, Hyams and Wexler 1993, Rizzi 1994; also Guasti 2004 and numerous references therein). Subject position was first occupied by personal pronoun *I* for all three participants, in keeping with previous literature (e.g., Huttenlocher, Smiley & Charney, 1983; Pine, Lieven & Rowland, 1998). Other pronouns, entered the children's repertoires of subjects at varying in times but pronoun *I* remained most frequent. Variation was greatest in inclusion of lexical nouns and names as subjects. Aurie produced few of either, while Rick and Alice gradually included these forms in subject position to varying extents. Deictic pronouns rarely occurred as subjects.

In contrast with subjects, the object was rarely omitted where expected (0-12%, except for Alice's first month of data: 17% (**Table 1b**), although position in the utterance was not always accurate. Pronoun use, in particular pronoun *it* (attested in the first month of object use for all participants), also in keeping with previous literature, was prominent in object position, but the children varied in their tendency to use lexical nouns, names and deictics in object position over the months of analysis.

Table 1a Frequencies of Elements in Subject Position

	Aurie-Subjects				Rick-Subjects				Alice-Subjects			
months	1	2	3	4	1	2	3	4	1	2	3	4
Pro	0	2	6	38	4	5	15	3	0	4	2	24
Dei	0	0	0	1	0	0	1	1	0	0	2	2
Lex	2	0	1	1	0	0	6	5	4	4	5	8
Na	0	0	1	2	0	5	8	3	2	2	3	4
Oth	0	0	0	0	0	0	0	1	0	1	0	0
Om	2	4	4	13	7	8	23	21	10	37	57	62
Tot	6	12	17	68	14	30	56	40	17	66	78	110
NA	-2	-6	-5	-13	-3	-12	-3	-6	-1	-18	-9	-10
Base¹⁴	4	6	12	52	11	18	53	34	16	48	69	100
% Om	50	67	33	25	64	44	43	62	63	77	82	.62

Table 1a: Columns numbered 1-4 refer to the sequential months of analysis for each child. Abbreviations in Column one are as follows: Pro=Pronoun, Dei=Deictic, Lex=Lexical, Na=Names, Oth=Other, Om=Omitted. Tot=Total utterances analyzed; N/A (not applicable) refers to frequencies where the element is not expected in the adult formulation; Base=Total upon which % Omitted subjects is based; % Om= % of subjects omitted where expected.

¹⁴ The base for determining %omitted is calculated only on utterances where that element is expected in adult productions.

Table 1b Frequencies of Elements in Object Position

	Aurie -Objects				Rick- Objects				Alice-Objects			
months	1	2	3	4	1	2	3	4	1	2	3	4
Pro	1	3	4	13	10	20	23	8	1	7	6	13
Dei	3	6	6	6	0	3	3	12	0	0	9	16
Lex	0	1	0	19	1	1	11	6	2	28	39	34
Na	0	0	1	3	0	0	1	0	2	3	3	1
Oth	0	1	0	13	1	1	2	0	0	4	4	5
Om	0	1	1	2	0	2	5	3	1	1	2	10
Tot	6	12	17	67	14	30	56	40	17	66	78	110
-N/A	-2	0	-5	-11	-2	-3	-11	-11	11	-23	-15	-31
Base	4	12	12	56	12	27	45	29	6	43	63	79
% om	0	8	8	3	0	7	9	10	17	3	3	13

Table 1b: Columns numbered 1-4 refer to the sequential months of analysis for each child. Abbreviations in Column one are as follows: Pro=Pronoun, Dei=Deictic, Lex=Lexical, Na=Names, Oth=Other, Om=Omitted. Tot=Total utterances analyzed; N/A (not applicable) refers to frequencies where the element is not expected in the adult formulation; Base=Total upon which % Omitted objects is based; % Om= % of objects omitted where expected.

6.1. The application of symmetrical and asymmetrical merge develops and this development can vary by child.

From the first month of analysis all three children demonstrate the use of asymmetrical merge and symmetrical merge. However, the use of symmetrical merge for predicate-argument relations in particular is expected to be relatively low, as in the adult English grammar these merges are realized by asymmetrical merge, and moreover pronouns, which provide an overt clue to the child for asymmetrical merge, are frequent in these positions.

Aurie

Aurie's initial session (21 months) includes *bunny soft*, demonstrating symmetrical merge. Examples of symmetrical merge in argument-predicate environments in later months, for instance *Oscar mean* (24 months).

With respect to asymmetrically merging subjects, Aurie produced *I want* and *I want that*

at 22 months, the second month of analysis. Use of pronoun *I* as subject increased in frequency in following months, culminating in 30 productions, in the final session, where pronominal subject use generalized to include *you* and *it*, comprising 70% of subjects. This session also included a single deictic subject, a single lexical subject, and two proper names as subjects. These minimal frequencies of asymmetrical merge in subject position, in the absence of overt evidence (e.g., functional material such as determiners), provide little assurance that Aurie is applying asymmetrical merge for subjects beyond weak pronouns.

In contrast with respect to object use, Aurie produced *tap them* in her first session, demonstrating asymmetrical merge in object position with functional material. In the following two months pronominal objects increase gradually until the final month, 24 months where pronoun use, including varied pronouns, increases to 16, and lexical objects (n=21) occur for the first time. Deictic objects began productively at 22 months (despite a single symmetrical merge case, *this hold*) and remained a steady minority of objects produced. This pattern suggests that at 24 months she has consolidated asymmetrical merge of objects across varied sorts of material. We therefore conclude that Aurie asymmetrically merges lexical and name objects at 24 months. It seems likely that deictic objects, while less frequent following typical adult usage, are also asymmetrically merged.

Table 2a Aurie: Evidence for the Use of Asymmetrical Merge

AM	S					O			
	21	22	23	24		21	22	23	24
Pron									
L									
N									
D									

Rick

Like Aurie, in earlier months, prior to verb use, Rick produced a few combinations best described as symmetrically merged (e.g., *green cup*, *oh baby baby*, *daisy doggie*, *daisy monkey*, *good cider*). Additional evidence of symmetrical merge is discussed below, with respect to his positioning of lexical objects in later months.

Asymmetrical merge for subjects was apparent in the first session analyzed (21 months): *I break it*, *I broke it* and *I'm playing*, with all other subjects omitted. The following month (22 months) *I* continued and pronoun *it* was used as a subject (*it's leaking*). Three proper names occurred in preverbal position this month (including his own): the inclusion of names three times in subject position, following upon the prior month's onset of subject pronouns, and the

continued use of names in subsequent months, suggests that names are asymmetrically merged from this point. Lexical nouns do not yet appear in subject position. At 23 months, use of pronoun *I* increased substantially, and varied lexical and proper name subjects were introduced (including two names with stative verbs: *Carol needs it* and *Shelley have it*). At 24 months, although a greater percentage of subjects is omitted, the continued use of names and the introduction of lexical subjects, including functional material (e.g., *Carol sitting down; the doggie go*), suggests that he has consolidated asymmetrical merge for subjects. Those attested are balanced across pronouns, proper names and lexical items, and pronoun use in subject position extends to *I*, *you* and *it*.

In object position in Rick's initial month, pronoun use is clearly productive with pronoun *it* as the object of eight different verbs, a pattern that continues with additional verbs the following month, as well as beginning use of deictic objects, which appear productive at 22 months, therefore can be assumed to be asymmetrically merged (since he also has productive pronouns in that position). At 23 months pronoun objects continue to increase, and 11 lexical objects appear. But although these are clearly conceptualized as objects (i.e., patients), position in the utterance varies, suggesting that Rick is not asymmetrically merging lexical objects at this point. Deictic objects in canonical position increase substantially from month 23 (3 out of 54 overt objects) to month 24 (12 out of 39 overt objects) in their canonical position.

Despite this demonstrated use of asymmetrical merge for both subjects and objects, Rick also produced several instances of non-adult word order of predicates and arguments with lexical items, indicating symmetrical merge, throughout the study. For instance, at 23 months he produced *say puppet*, where the puppet denotes the agent (hence subject) of the verb *say*. (And note in such cases the absence of tense or agreement on the verb, which is presumably why non-canonical word order for S and V is in fact possible, in the absence of any grammatical material). At 23 months, he produced both VO and OV orders with *want* and lexical objects (both bare and with a determiner): *apple want*, *I want apple*, *an apple want*. We also see asymmetrically merged pronominal/deictic objects that "double" a coreferent lexical object which is symmetrically merged in initial position: *truck + fix that*, *cat + do it*, *truck + Nanna + she made this* (Rick 22), *banana + put it back* (Rick 23). In month 24, all lexical objects are in the correct position except for *jingle bell get that out*; this could well be a reversion to his strategy of extraposition for lexical objects due to the infrequent nature of *jingle bell*. We discuss these further below in the section on recursion. It is of interest that in this final month of analysis, where objects are canonically placed for the first time, there is an increase in subject omission and a reduction in frequency of predicative utterances.

Table 2b Rick: Evidence for the Use of Asymmetrical Merge

AM	S					O			
	21	22	23	24		21	22	23	24
Pron									
L									
N									
D									

Alice

Alice showed variable word order at 18 months with *drive man* and *man drive*; *ride truck* and *truck ride*, indicating clearly that these combinations are symmetrically merged. Moreover, symmetrical merge is also likely in an utterance such as *car ride car* (Alice 18) and *man drive man* (Alice 19), which we take to be *car + ride + car* and *man + drive + man*.

With respect to subject position, Alice produced three combinations including pronoun *I* in subject position at 19 months (second session), suggesting asymmetrical merge. But the first of these in the session *I finish* follows two maternal utterances each including one of the words in Alice's production: *I'll help you*, and after a brief pause where the mother assists with a toy, *There, now you finish*. Alice's production of *I finish* is not an imitation, but is facilitated by the maternal productions (see Herr-Israel & McCune, 2009; Veneziano, Sinclair, & Berthoud, 1990). Later in the session she independently produces *I close him* and *I sit down*, and imitates *I see it*. Neither *I* nor other functional material occurs again in subject position until the final session (21 months) when 35 of the 129 productions analyzed included *I* in subject position, and she produces *you* in subject position as well. We therefore conclude that her productivity with pronouns in subject position, and asymmetrical merge in that position begins at 21 months.

Lexical nouns at 19 and 20 months appear symmetrically merged in subject position and lexical and deictic subjects remain rare in her data throughout the study. Recall that Alice has 62% omitted subjects even in the final month. When lexical subjects are produced they are limited to sentences with omitted copula (e.g., *coat off*; *daddy shirt all clean now*) or toys that she treats as animate in play (e.g., at 20 months: *baby doll have hat on*; at 21 months: *doggy on Alice*; *elephant sleep now*; *that girl have jeans on*). Consequently we judge that her use of asymmetrical merge in subject position is not yet completely consolidated at 21 months.

In Alice's object position, at 18 months there is no clear evidence for asymmetrical merge, only one occurrence of *try it* and no evidence that Alice isn't using this phrase as an unanalyzed unit. However, the following month, her use of *it* in object position is generalized across different verbs, e.g. *get it*, *drink it*, *cut it off*, *drink it baby*. This suggests that Alice has a productive use of asymmetrical merge for pronouns in object position by 19 months. Also

beginning at 19 months she produces a variety of lexical objects (e.g., *make tea, want apple, get hat*), suggesting that as soon as asymmetrical merge was demonstrated for functional material, Alice utilized the potential for asymmetrically merging lexical items in object position.

Table 2c Alice: Evidence for the Use of Asymmetrical Merge

AM	S					O			
	18	19	20	21		18	19	20	21
Pron									
L									
N									
D									

6.2. The application of recursion develops and this development can vary by child

Recall that *recursion* refers to nested asymmetrical merge: cases in which there is more than one instance of asymmetrical merge, with one nested inside the other, i.e. [A [B [C]]] or [[[A] B] C]. As we are interested here in arguments and how they merge with predicates, we first consider the instances of SVO with pronouns, e.g. *I break it*, which indicate recursive application of asymmetrical merge: [I [break [it]]].

Aurie

Aurie's development of the application of recursion in predicate-argument environments appears at 23 months with two utterances involving pronominal subjects and objects; *I did it, I will find you*. This comes after the emergence of the application of asymmetrical merge for objects (at 21 months) and subjects (at 22 months). At 24 months, she produced 6 recursive SVO utterances with pronouns in both argument positions (total predicative productions 70), suggesting that recursive SVO is consolidated with pronouns. Given our argument above that Aurie asymmetrically merges all objects at 24 months, we conclude that she has 33 SVO utterances that month. However, the subjects in her recursive SVO productions are exclusively restricted to the personal pronouns *I* and *you*.

Rick

Rick shows evidence for predicate-argument recursive structures in the first month of analysis (21 months): *I break it, I broke it*. At 22 months, he produces 3 SVO sentences with both pronominal subject and object, and 7 SVO sentences altogether. Although he demonstrates

recursion when he is using pronouns or deictic elements, he does not put lexical items in the object position of SVO sentences. Instead, as we have already mentioned, he uses extraposition with a recursive SVO structure: *truck + Nanna + she made this* (22), *cow says that + meow* (23).

Lexical nouns do occur in VO environments across all months, but not when the subject position is filled, also suggesting a lack of recursivity before 24 months. At 24 months, extraposition of the object and subject almost disappears (only one utterance: *jingle bell + get that out*), but he still does not use lexical objects in SVO structures. The limitation in including lexical items in recursive structures seems still to be pervasive in the final month of analysis.

However, despite this apparent difficulty with asymmetrical merge with lexical material in the object position, there is ample evidence for recursion in Rick's productions at 24 months. For instance, *you can do that*, involving at least two pieces of functional material (pronominal subject and *can*): [you [can [do [that]]]]; and *toes will get cold toes*; since *will* is functional material we conclude that the structure is [toes [will [get [cold]]]] + [toes]. This does indicate a recursive structure.

Alice

Alice's combinations at 18 months show no evidence for recursion; her only 3-word combinations do not involve a transitive verb (*baby sit truck*). At 19 months, compared to the previous month, Alice now uses transitive verbs (*clean, drink, feel, find, get, hold, touch, make, take, want, wear*, and so on). We see the emergence of recursion in *I close him*, although pronouns are not yet productive (cf. earlier discussion). However, subjects are still mostly missing (35 out of 50 subjects). Therefore, Alice does not use recursion productively for SVO at 19 months.

At 20 months, Alice uses SVO twice but with the same verb and pronouns: *you help me, you help me now*, providing insufficient evidence to attest to a general use of recursive application of asymmetrical merge.

Finally at 21 months, Alice is starting to use subject and object pronouns productively. Notably, at the same time her syntax changes radically too: she has SVO sentences (31 out of 129 produced types), compared to 20 months where she had just two SVO cases in 79 production types. Her syntax is getting more complex: she starts producing auxiliaries (*can't, don't*), complex objects with particle verbs (*I throw that apple away mommy*), and a structure that looks like a relative clause (*I want page have girl*, meaning 'I want the page that has the girl'). Such cases suggest that she uses recursion (VP embedded under an auxiliary, particle-verb structure, complex objects, for instance), but not to form mere SVO sentences (pronoun-V-pronoun sequences are not attested in her productions). That is, she uses recursion productively, but with limited items still. Her still relatively high number of omitted subjects confirms that recursion is still not fully consolidated on the last month of our study.

Interestingly, the sequences of her productions also reveal her strategy for circumnavigating her limitations in recursive application of asymmetrical merge. Complex multiple grammatical relationships, and verb embedding, are expressed over multiple sentences

where the verb is repeated with different arguments expressed: for instance, *sit in you ride in there* followed immediately by *sit in the boat*; and *wake up elephant wake up* followed by *elephant wake up morning* (21 months). She also uses the maternal conversation to facilitate apparently complex productions. At 19 months her mother asks: *who wears a scarf?* Alice replies, *Joanie*; her mother confirms: *Yeah, Grandma does*, and Alice then produces *oh, grandma wears hat*, producing her only apparently recursive utterance in that session, and her only use of tense in her entire data set.

All three children's patterns of development of asymmetrical merge for VO, asymmetrical merge for SV, and SVO recursion are shown in Table 3(a-c):

Table 3a Evidence for VO Asymmetrical Merge

	month 1	month 2	month 3	month 4
Aurie				
Rick				
Alice				

Table 3b Evidence for SV Asymmetrical Merge

	month 1	month 2	month 3	month 4
Aurie				
Rick				
Alice				

Table 3c Evidence for SVO Recursion

	month 1	month 2	month 3	month 4
Aurie				
Rick				
Alice				

6.3. Toward a measurement of grammatical complexity

The present approach makes feasible the possibility of direct investigation of the syntactic complexity of children's productions, providing additional information about the child's general linguistic development beyond using MLU alone.

In principle, if we can diagnose applications of asymmetrical merge with functional material, and if we can diagnose nested applications of asymmetrical merge, we should be able to measure the complexity of a particular sentence by counting the depth of nested applications of asymmetrical merge. In order to measure grammatical complexity, however, we need to move beyond the secure base of productive pronoun use in subject and object positions in argument-predicate structures. Specifically, we need to determine whether each merge is asymmetrical or symmetrical, not only for argument-predicate merges, but for each instance of merge in a sentence. For this we need to consider all functional material, in addition to pronouns.

Once we have determined which merges are asymmetrical, we can use an algorithmic procedure, as above in section 5.5, for determining the syntactic depth d of a particular structure—that is, the deepest nesting of asymmetrical merge, such that one instance of asymmetrical merge is $d(\text{epth}) = 1$, two nested instances is $d = 2$, and so forth. Recall that multiple application of symmetrical merge only produces a string of elements with no internal structure; $A+B+C = C+A+B = B+A+C$, etc. A hypothetical child who could be determined to be using only symmetrical merge would have a max d of 0—just like a child in the one-word stage. We applied this methodology to each child in each session, then identified, for each session, the *max(imum)* d that was exemplified by more than one utterance type within that session.

In principle, there is a depth d for any structure. In practice, however, it is not always possible to determine d for every child production. This is because, as we have seen, it is not always possible to unambiguously assign a particular structure to a particular production. As other tools such as prosody are developed (e.g., Torregrossa & Melloni 2013), it will likely become easier to provide an unambiguous structural analysis, and therefore the calculation of d will be possible in more cases, though there may well always remain residual cases in which it is impossible to distinguish the two kinds of merge.¹⁵ In the following we evaluate the values for max d in each of the four months of analysis for each child.¹⁶ As before, we required that the maximum depth be instantiated more than once unambiguously (whatever the structure might be), to count as the value for a given month.

¹⁵ This point entails that we cannot measure mean d for a session (much as we would have liked to). However, by measuring max d , we can get a picture of the child's most advanced structural development even when some of the utterances cannot be unambiguously analyzed. In general for any proposed max $d=n$, to ensure that n is the maximum d expressed, we analyzed all utterances of length $n+2$ merged elements or more to rule out any counterexamples of $d > n$.

¹⁶ We examined the non-predicative utterances (otherwise excluded from the analysis) to ensure that none of them had a greater depth than the deepest predicative utterances. This was indeed the case, even though some non-predicative utterances were relatively long. For example, *a grapes and corn and a banana* (Rick 21) is analyzed as [a grapes] + [and corn] + [and [a [banana]]], so d is only 2 despite the utterance's length.

Aurie

Aurie has only a single $d=1$ sentence (*[tap [them]]*) at 21 months, so her max d for that month is zero. (See Table 4a.) At 22 months she has three instances of $d=1$ (and a single instance of $d=2$, i.e., *[play [with [that]]]*), so max $d = 1$. At 23 months she has three instances of $d=2$ (and a single instance of $d=3$: *[I [will [find [you]]]]*), so max $d = 2$. At 24 months she has two instances of $d=4$, her max d for the session, and her highest in the study. However, we note that she still has many instances of $d=1$ with *I want* sentences: compared to adult grammar where these sentences would be fairly complex, Aurie has a pause after *I want* which may indicate that she builds them with symmetrical merge of [I want] and its complement: [I [want] + [take [it [off]]], [I [want]] + [talk [Grandpa Eli]] + [ok], [I [want]] + [untie [it]]. If on the contrary the pause does not indicate symmetrical merge, several of these utterances would be $d=4$ as well.

Table 4a Aurie: Max d Values

month	age	Ex	Max d
1	21	<i>bunny + soft</i>	0
2	22	<i>[I [want]], [eat it], [feel it]</i>	1
3	23	<i>[I [did [it]]], [don't [eat [it]]], [I [want [this]]], Oscar + [sleeping [down [there]]]</i>	2
4	24	<i>[and [you [need [a [cup]]]], [leave [Oscar [on [the [mud]]]]]</i>	4

Rick

In the first month of sufficiently many combinations (21 months), Rick has three secure cases of $d=2$, his max d this month. (See **Table 4b**.) Since Rick does not show evidence of productive past tense (only two instances of a single irregular past tense verb, *broke*), we analyze *I broke it* as [I [broke [it]], not [I [Tense [break [it]]]. That is, we do not see evidence that Rick makes use of a syntactically visible Tense projection separate from the verb in this case. In contrast, in *I'm playing*, the auxiliary 'm provides evidence for Tense,¹⁷ and hence counts as an additional asymmetrical merge. His continued use of the contracted auxiliary in the following months supports this.

At 22 months, Rick still does not show evidence of using grammatical tense. He has three

¹⁷ In linguistic analysis the copula is considered the expression of tense in the absence of a lexical verb.

irregular verbs in the past (two occurrences of *made* and one *bought*) - so, even though it is clear from the interaction with his mother in the video, that he discriminates past in this usage, there is still not sufficient evidence that he has a grammatical notion of past tense. This leads to the analysis of *truck Nanna she made this* as: truck + Nanna + [she [made [this]]]; hence $d=2$ (recall from section 5.1 that Rick is asymmetrically merging name subjects and deictic objects at 22 months). Cases in the progressive that involve overt realization of tense do not exceed $d=2$ (eg. *Shelley's coming*). Accordingly, his max $d = 2$ this month.

At 23 months, evidence for tense and agreement marking on verbs (tense: *I'm gonna, I opened it*, agreement: *cow says that meow*; both tense and agreement on copula sentences: *I'm stuck, I'm tired, it's green, it's warm*) becomes more widespread, suggesting that Rick makes use of a Tense/Agreement inflectional structure, that is consolidated the next month.¹⁸ Accordingly, Rick now has several $d=3$ cases (*[Carol [Tense [need [it]]]*, *[cow [Tense [say [that]] + meow*, *[I [I'm [gonna [bang]] + [the [window]]]*), his max d for this session.

Rick stays at max $d = 3$ for the remaining month of the analysis, showing a wide variety of linguistic structures, but with no increase of his structural depth. We did not find clear evidence for Tense/Agreement this month.

¹⁸ On tense/agreement, see Appendix A, section 1.

Table 4b Rick: Max d Values

month	age	Ex	Max d
1	21	[I [break [it]]], [I ['m [playing]]], [I [broke [it]]]	2
2	22	[I [fix [it]]], [I [drink [it]]], [I [fix [them]]] + [mommy ['s]], [it ['s [leaking]]], mommy + [put [on [foot]]], [Nanna [made [this]]], [Rick [drink [it]]], [Shelley ['s [coming]]], truck + Nanna + [she [made [this]]]	2
3	23	[Carol [Tense [need [it]]], Carol needs it [cow [Tense [say [that]]] + meow, cow says that, meow [I [open [Tense/Agr [it]]], I opened it [I ['m [gonna [bang]]] + [the [window]]]	3
4	24	[toes [will [get [cold]]] + toes, [I ['m [gonna [cut]]], [put [toys [in [there]]], you [can [do [it]]], you [can [do [that]]]	3

Alice

At her first month of analysis, Alice has a max d = 0, as she does not show evidence that any of her two word combinations are asymmetrically merged this month except for one verb-pronoun combination, *try it*.

At month 19, Alice has one secure case of SVO (*I close him*), but many other cases of d=2 involving particle verbs (eg. *take off*) and small clauses (eg. *make clean*). Her max d = 2, but she is able to express a more complex idea by symmetrically merging asymmetrically merged pairs (d=1): [in [here]] + [look [around]] + [Oscar [grouch]], [too [warm]] + [hold [baby]] + [mommy [hold]].

At 20 months, she has many examples of d=2 where she either has a complex object (*/get*

[my [bottle]], [have [some [tea]]) or a particle verb: *pull coat on, take hat off*. She has one secure $d=3$ (*[don't [have [shoe [on]]]*) and a few possible 3s: *play with something else, put more in that*, but not enough evidence to attribute $\max d = 3$ to her this month. Alice is still using a good deal of symmetrical merge: *want + Shoprite + baby* in a context where she wants to take the baby to Shoprite, or *hat + [take [that [off]] + too + mommy*, for instance. Alice also has an instance of what seems to be a symmetrical merge embedded in asymmetrically merged structure: *baby + [[coat + hat] [off]]*.

At 21 months, as her production become more complex, her $\max d$ increases to $d=4$. There is one possible case of $d = 5$ (*[I [buy [something [in [that [pocketbook]]]]]]*) but it is ambiguous with $d=2$ under an alternative analysis (*[I [buy [something]]] + [in [that [pocketbook]]]*) and therefore does not count as sufficient evidence.

In addition to the $d=4$ cases in **Table 4c**, some of her sentences are ambiguous between $d=3$ and $d=4$ (e.g., *[I [want [page + [have [girl]]]* or *[I [want [page [have [girl]]]]*, *[I [take [[baby + hat] [off]]]] + mommy* or *[I [take [baby [hat]] [off]]] + mommy* or *[I [[take [baby + hat]] [off]] + mommy* or *[I [[take [baby [hat]]] [off]] + mommy*). Nevertheless, she has many various cases supporting $\max d = 4$.

Table 4c Alice: Max d Values

month	age	Examples	Max d
1	18	<i>car + ride + car,</i> <i>drive + man</i>	0
2	19	<i>[clean [floor [up]]],</i> <i>[I [close [him]],</i> <i>[make [floor [clean]]],</i> <i>[take [blanket [off]]],</i> <i>[take [coat [off]]],</i> <i>[take [hat [off]]],</i> <i>[take [my [off]]] + too</i>	2
3	20	<i>[buy [something [good]]],</i> <i>[don't [want [that]]],</i> <i>[have [these [toys]]] + no,</i> <i>[you [help [me]]] + now</i>	2
4	21	<i>[can't [put [it [on [plate]]]]] + mommy,</i> <i>[I [throw [[that [apple]] [away]]] + mommy,</i> <i>[[that [girl]] [have [take [that [jacket]]]]] + mommy</i>	4

Comparing $\max d$ results for the three children with their MLU values, it appears that,

similar to MLU, max d either stays the same or increases. However, comparing the results for max d with the MLU for each child and for each month, we also find that the measures do not go hand in hand.

Using max d as a measure of structural complexity shows that there are differences between the children that contribute to a more nuanced picture of development than just MLU alone. Although this study consists of only a few months each for three children, we can already see that max d gives a different and complementary picture of each child's development as compared to MLU. One contrast that emerges is that MLU can increase even while syntactic complexity, as measured by max d, remains unchanged—in Rick from month 1 to 2 and from month 3 to 4. Likewise, max d can increase even though MLU is not increasing, as in Aurie from month 1 to 3 and Rick from month 2 to 3. Sometimes both increase, as in all of Alice's transitions, for instance, as well as Aurie from month 3 to 4. (Fig.1)

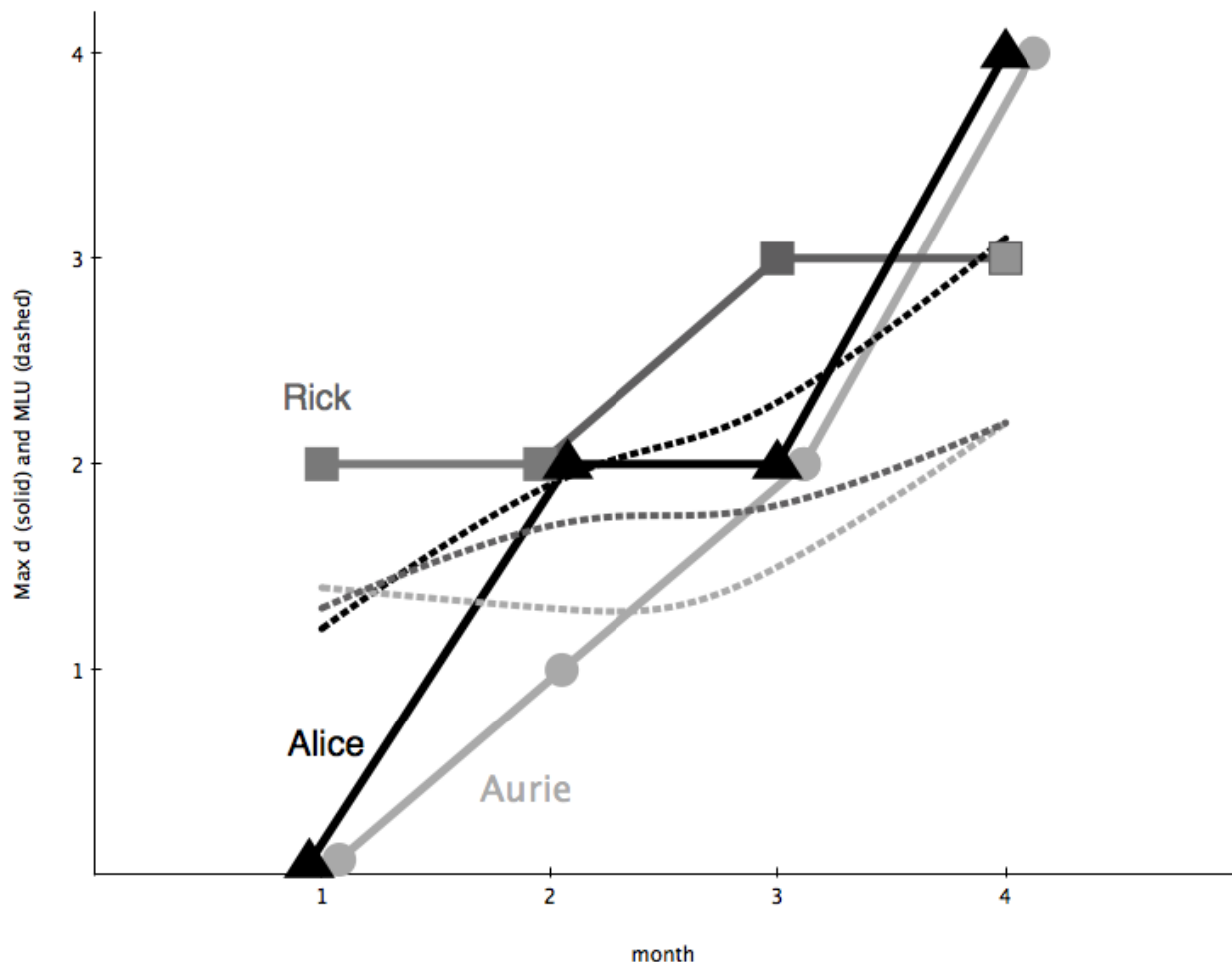


Figure 1: Max d (solid) and MLU (dashed) vs. month

Furthermore, the three children exhibit three different patterns of development as measured by max d in comparison with MLU (Fig. 1). For instance, we note that all of the

children start with similar MLU, but Rick's max d is already higher; Rick alone of the children uses recursion ($d=2$) from the first combinations. On the last month of analysis max d still differs across children, even though two of them (Aurie and Rick) again have the same MLU.

We also note (Fig. 2) that aside from Alice, who has a regular pattern of development in which max d and MLU are well correlated, for Rick and Aurie this is not the case. For Rick MLU increases when max = d stays constant and vice versa. Aurie's MLU stays essentially constant while max d increases through month 3, after which, in the last transition, she increases both max d and MLU.

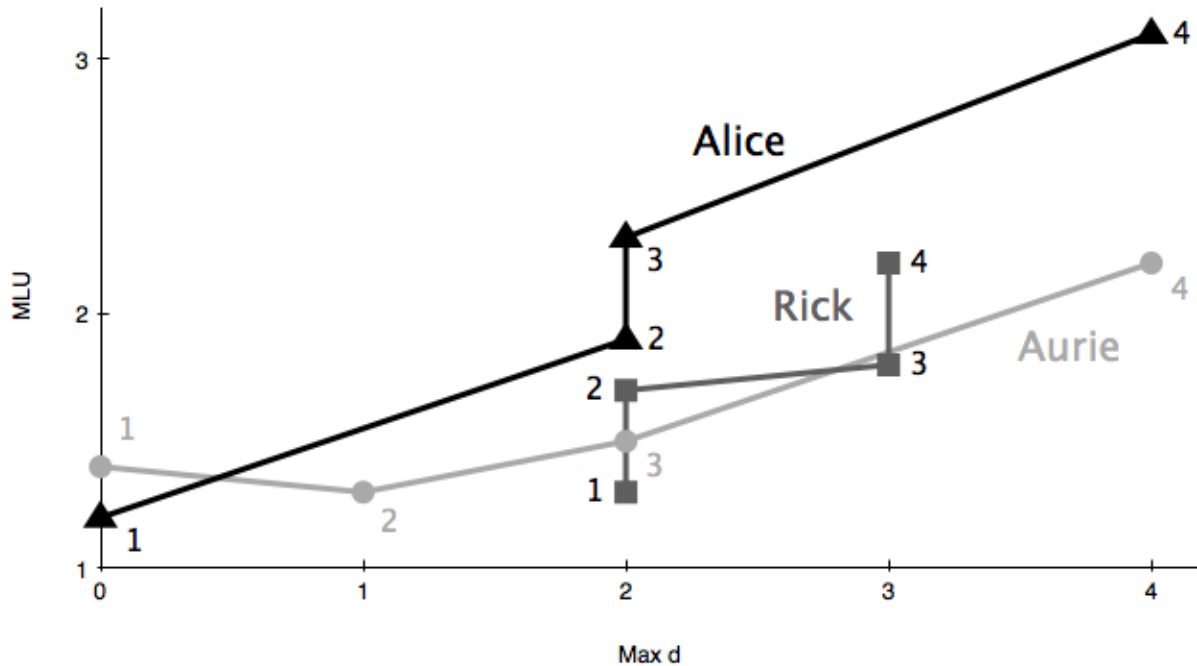


Figure 2: MLU vs. max d
each node labelled with the number of its month

7. General discussion

The aim of the present study was to document the development of core combinatorial operations in children's early transition from single words to sentences. By analyzing children's productions in terms of symmetrical merge, asymmetrical merge and recursion (nested asymmetrical merge), we have shown that the application of merge and recursion develops through time, and that this development varies by child. This perspective allows us to account for the subtle and yet regular ways in which children's individual productions differ from the target grammar and from one another. Individual strategies emerge in the ways each child uses the merge operations and applies asymmetrical merge recursively.

Our study presents a developmental, yet, generative, approach to language acquisition. A

generative system provides combinatorial processes that the child, with development, will apply in more and more contexts. There are a number of additional factors influencing children's productions (including working memory, lexical access, phonology) but this does not undermine the foundational idea that language is structure building, rather than, say, learned or memorized constructions / chunks of structures. Instead, language development is the development of the application of such combinatorial operations.

7.1 Children create varied and original structures

The claim that language development is the result of the development of the domains of application of merge and recursion is supported by the degree of individual variation found in our data. Among our three children, we see evidence for the use of symmetrical and asymmetrical merge from the beginning. Notable differences emerge, however, in the domain of application of each operation across the children. For instance, we have seen that Rick has many instances of pronouns in subject and object positions from the beginning, while Alice has relatively few pronouns throughout. And aside from showing various differences between the development of grammatical and lexical categories for the three children, the study shows, more importantly perhaps, that children can use completely different grammatical strategies to express the concepts that adult English speakers express by means of recursion.

Aurie

Aurie does not stray far from combinations that are acceptable in the adult target grammar, though she produces a couple of non-target symmetrical merges: *this hold* (22 months) and *baby look it* (*baby* is the object/patient; 24 months). The major difference between Aurie's productions and adult productions is that she very often omits an argument (e.g., *found Oscar*, *I need*, both 24 months). Because of this, Aurie seems to fit particularly well with hypotheses that account for the differences between children and adult productions in terms of a deficient system as, for instance, in the truncation hypothesis (Rizzi, 1993/1994) or the maturation hypothesis (Borer & Wexler, 1987). In these types of analysis, Aurie produces partial structures missing a subject, for instance; but her productions, even though partial, reflect the adult input quite closely.

The other case studies cannot be easily accounted for in a similar fashion, because the productions of Rick and Alice diverge radically (on some aspects) from the adult grammar, and because of that have to be the product of the 'original' application of merge and recursion.

Rick

Rick, who has the highest rate of pronouns in argument position, is also the individual child who applies asymmetrical merge recursively the earliest. Now, the correlation between the number of pronouns and recursion shouldn't be a surprise; but what is surprising, however, is how Rick treats lexical nouns. As we have said, there is no evidence that Rick asymmetrically

merges lexical nouns in S and O positions until the last month of analysis. Instead, what Rick does is asymmetrically merge pronominal or deictic subjects and objects, with lexical items extraposed, using symmetrical merge: *truck fix that, cat do it, truck Nanna she made this, banana put it back*. It is highly implausible that such utterances were ever part of Rick's input, as they are not grammatical in adult English. Instead, we conclude that they are instances of the 'original' application of symmetrical merge vs. asymmetrical merge. Rick's extraposition thus allows him to combine lexical items with an asymmetrical merge structure using the tools he already has, namely symmetrical merge and asymmetrical merge with pronouns, deictics and proper names, when he is not yet combining lexical items with asymmetrical merge.¹⁹

It is possible that such a strategy emerges from a difficulty in applying recursion for lexical arguments (but note that Rick productively applies recursion for other classes of items); or from a delay, visible at this stage, in Rick's recognition that lexical nouns are grammatical elements that can enter into the application of the asymmetrical merge operation.

Difficulties in applying asymmetrical merge recursively with lexical items for Rick go beyond the set of data considered in this study, and concern the structure of the nominal phrase as well. We also see this pattern at 20 months (line 932 in the CHILDES transcript) with functional material (the determiner *a*). Rick asymmetrically merges [*a [big]*] and extraposes (symmetrically merges) *apple*. He is apparently interested in expressing the meaning of 'a big apple', he has the ability to utter three-word utterances, he does have an instance of merging an adjective with a noun (*green cup*, line 1305) and his mother even models how to say *a big apple*, but he does not repeat her utterance. Given characteristics of his other productions discussed here, we suspect this is because he cannot put these lexical items in recursive structures yet.

***CHI: apple a big**

***CHI: a big**

***MOT: a big apple**

***CHI: apple**

We note finally, that at 23 months, even though Rick commonly uses recursive application of asymmetrical merge, he also exhibits recurrent patterns of symmetrical merges as late as 23 months that are not adult like: e.g., *say puppet* (where *puppet* is the agent), *apple want* (where *apple* is the theme). This indicates a still relatively free use of symmetrical merge for subjects and objects, which is also what is shown by the extraposition of lexical objects above. Altogether, these facts show that Rick is consistent in his use of symmetrical merge and asymmetrical merge, and that even though it is different from adults' target grammar, it forms a consistent and coherent system.

¹⁹ Extraposed material does not enter in a dependency relationship with the verb (the dependency is expressed with the deictic), and we assume, accordingly, that it is an instantiation of symmetrical merge, yielding: e.g., *truck + Nanna + [she [made [this]]]*. We analyze his extraposition as symmetrical merge as these, and the following, look very much like topics, which would be symmetrically merged (adjoined to a high level of the sentence).

Alice

Alice demonstrates another way to express SVO where adult English speakers use recursion. Among the three children Alice consistently has the largest MLU. To the extent that MLU tracks grammatical development, we might expect that she would also master recursion early. However, even though Alice has the highest MLU throughout, she does not use recursion productively until 21 months (the last month of analysis for her). This pattern of development, then, raises the question of how her MLU can increase without her using the recursive application of asymmetrical merge until 21 months.

In her first month, most of her combinations are in fact compatible with a symmetrical merge rather than an asymmetrical merge analysis. Even once she shows evidence for asymmetrical merge, however, at 19 and 20 months, she tends to merge additional material symmetrically, rather than nesting asymmetrical merge, for example, *[fill [up]] + brim + tea* (20 months). Even though she does asymmetrically merge VO combinations beginning at 19 months, where she mostly combines V and a lexical noun, she still generally omits subjects, especially with VO (i.e., when the object is produced); and subjects are realized largely only with intransitive verbs (one exception: *oh grandma wears hat*; 19 months, maternally facilitated as mentioned earlier). This apparent complementary distribution between subject and object indicates that she still does not productively use recursion in SVO environments through 20 months. This picture suggests two things: a more extensive use of symmetrical merge than she would have ever heard from adults, and a relative reluctance to apply asymmetrical merge recursively (producing SVO) until 21 months.

We find that Alice's increasing MLU follows precisely from these two factors combined with each other, with repeated symmetrical merging of single pairs of asymmetrically merged elements. Consider for instance, *now + [look.at [pig]] + [one [more]] + mommy* (21 months); *[in [here]] + [look [around]] + [Oscar [grouch]]* (19 months); or *[too [warm]] + [hold [baby]] + [mommy [hold]]* (19 months). This last example illustrates clearly the difficulty for Alice to merge a verb with multiple arguments and modifiers. Instead, she creates pairs and links them together by symmetrical merge, repeating the verb in two of the pairs.²⁰

We note that even at 21 months, where we see ample evidence for recursion, she still has many pairs (built by asymmetrical merge), and concatenations of such pairs. And in fact, many of her more complex structures also have concatenated topics: *mommy help baby take coat off* ('mommy help me take the coat off the baby', so most plausibly *mommy + help + baby + [take [coat [off]]]*); *baby have put over you* (again with a preposed 'baby' topic); *baby has to get off* (meaning 'with regards to the baby, something has to get off the baby'.) See Clark (1974) for a similar case study.

It thus appears that Alice's relatively large MLU is not primarily due to using recursive structures, but rather to her ability to concatenate both lexical items (from 18 months) and asymmetrically merged pairs (from 19 months). In short, Alice is a linguistically precocious

²⁰ And note, in this context, the order of utterance of VO followed by SV, which is unexpected compared to adult grammar (S-V-O), and argues in favor of symmetrical merge, by our criteria.

child in the sense that she produces long strings of words (higher MLU), has a higher number of types and a larger vocabulary compared to the other children, but even so, she is not a precocious syntactician (though of course she is ahead of the other children in terms of age).

While Aurie's productions remain very close to adult productions throughout her development, many of Rick's and Alice's are clearly completely original and cannot plausibly be analyzed either as partial adult structures or as imitations of modelled constructions. This demonstrates that children's application of their structure-building operations is associated with a certain degree of 'freedom' or creativity. Such creativity is reflected in the individual variation found in the paths, the patterns and the particular strategies that children take in using their combinatorial operations.

7.2 Systematicity in children's 'errors' as evidence for capacity to merge

Even though children have partial sentences, the systematicity in the ways these sentences are partial argues in favor of an approach analyzing grammatical structures. The reason is that within a language there is order in the way processes of combination are applied to eventual adult grammatical categories and structures. Several systematic examples of this point emerged: for instance, generalized subject omission for a particular month while objects are included (Alice, 20); subject realization only with intransitive verbs (Alice, 20); subjects omission when objects are complex (Aurie, 24); symmetrical merging lexical objects but not subjects (Rick, 23). Only by analyzing this material through the lens of grammatical categories, i.e., in a framework that recognizes the existence of subject and objects as distinct grammatical categories, is it possible to formulate such generalizations. The children treat the positions of subject and object differently from the beginning, and their ability to employ the positions continues to develop over these first four months of predicative combinations.

The current approach provides a rather simple picture of this aspect of children's language development and its systematicity. Children and adults share the same two combinatorial operations; what develops is the domain of application of these operations. By domain of application we mean the set of environments in which merge is applied. That is, not only the child's lexical inventory (e.g., *eat* vs. *take*) and the child's generalization over lexical categories (e.g., pronouns vs. lexical nouns vs. names), but also syntactic categories such as subject and object. In the case at hand, children have the capacity to make generalizations over predicate-object cases and subject-predicate cases, meaning that, in practice, they discriminately supply objects versus subjects. There may well be an issue of limitation of resources such as working memory, but that alone does not predict this systematic asymmetry. However, assuming that the object and the subject are different grammatical items (i.e. items that grammar manipulates in merge operations) and can enter differently in merge applications, provides a plausible explanation for the asymmetry, as well as the individual variation in this context from the first combinations.

Object position is filled earlier and more fully by the three children, and their initial

inclusion of subjects is limited to pronoun *I*. Indeed, the sentences with omitted subjects typically referred to their own actions. Omission of *I* as the agent or subject is understandable from the perspective of egocentrism:²¹ children do not initially differentiate themselves from their actions. Beginning use of pronoun *I*, in developmental literature, is taken as an indicator of development of a sense of self (e.g., Lewis, 1995; Lewis & Ramsay, 2004). From the semantic perspective, children's self-reference has often been taken as beginning understanding of 'agency', leading perhaps to the filling of subject position in sentences, which then expands to additional elements in the subject role. However, examination of conditions of use for pronoun *I*, suggests a broader range of subject roles rather than simple agency. For example, *I want page have girl* (Alice 21); *I need that on me* (Alice 21); *I want this* (Aurie 23), *I'm stuck* (Rick 24), *I'm tired* (Rick 24), where *I* expresses an experiencer or a holder rather than an agent. It seems most parsimonious to suggest that in these examples children are recognizing the relevance of grammatical subject as they include subjects for the first time in sentences previously limited to VO. At the same time, lexical subjects remain rare, and are dominated by toys often treated as animate, suggesting some continued, if diminishing, semantic influence on the children's use of subject position.

7.3 From words to grammatical structures

The productions of Rick and Alice provide evidence that syntax cannot be boiled down to semantics of relational meanings. Rick's production *truck Nanna she made this*, e.g., shows us that he has a sense of Nanna's creation of the truck, but without being able to combine the words as adults do. In Rick's and Alice's use of their different strategies, it's difficult to avoid the impression that the child has detailed understanding of an agent acting on a patient, but that they are merely unable to use their grammatical tools to express the relational meanings that hold among the verbal constituents of meaning the same way that adults do. If knowledge of relational meaning really were sufficient to allow combination, it would be a mystery why Rick says *truck Nanna she made this* instead of *Nanna made truck*: he has three-word utterances, he knows that the truck is the patient, he knows how to combine a verb and an object when the object is a pronoun, and he furthermore knows that the pronoun object refers to the patient—what he doesn't know is how to merge the lexical word *truck* as an object in an SVO structure. Given all this, it is unlikely that the understanding of an agent acting on a patient is all that's required for a child to combine a subject, a predicate and an object in an SVO structure. A similar argument can be made for productions of Alice's such as *too warm hold baby mommy hold*.

Rather, the child's understanding of the situation bears some relationship to the meaning of the utterance, and the closeness of that relationship will play a role in determining the usefulness of a given combination of words in any given situation. Each child seems to use the tools they have to express a compositional meaning as close to their understanding of the situation as they can (or want to). Sometimes they hit upon a solution which is non-target and has almost certainly never been modelled for them, but which allows them to get a compositional

²¹ Egocentrism is taken here in a limited definition: the child is most influenced by own perspective on actions.

meaning that is “close enough”, completely coherent in their current grammatical system, and transparently meaningful in context.

In such a perspective, language development is seen as the process by which the child comes to map meaningful components of their experience onto grammatical syntax-semantic structures. These components may have some cognitive/conceptual structure in their experience, but that structure is not guaranteed to be the same as the grammatical structure of their utterance about the experience. Instead, there must be a non-identity mapping between cognitive/conceptual structure and grammatical structure. The child’s task is to uncover what maps onto grammar and how.

Recall that as Werner & Kaplan recognized, words in combination, integrated via a grammar, “are used by the individual to indicate to the hearer how he, the speaker, conceives of relations among referents” (Werner & Kaplan, 1963: 138). Werner & Kaplan also noted that grammaticality is not a property pre-existing in children’s words of the single word period. Rather, such words must ‘shift function’ to contribute to the grammar of a sentence. In contrast, functional material, such as pronouns, which do not typically occur as single words, are inherently grammatical. Hence we used functional material to diagnose the beginning of asymmetrical merge in each position for each child.

Analysis of children’s development of combinations indicated that not only does functional material diagnoses asymmetrical merge, but also that this idea, which started as an assumption, is in fact supported empirically in the current study. While the children varied in the order of merging different sorts of constituents in grammatical positions, functional material, such as pronouns, was typically used earlier or at the same time as other material, such as lexical items, in each position. So, it seems that functional words, those that are inherently grammatical, may implicitly allow children to see that words can have grammatical functions. It is another step to see that even lexical words can have grammatical functions. So not only is the children’s grammar a system, but this system affects the course of development.

8. Conclusion

The primary conclusions of this study are that application of merge and recursion can successfully characterize predicate-centric sentences from the beginning of their use, and that children develop the application of these tools by varying paths. Our work supports/is supported by the larger more general studies (Ninio, 2006, 2011; Le Normand et al., 2013) but provides detailed data on the emergence of grammatically motivated combinations at the very beginning, including the existence of early individual differences. Examination of functional material was a key to determining the developmental edge of children’s grammatical expression. As we examined the data for instances of asymmetrical merge, functional material was found to lead the way. In English, the focus has seemed to be personal pronouns. That may not be the case for other languages; we expect that typological properties of the particular language being acquired will play an important role in the strategies that children acquiring that language bring to bear.

The present study demonstrates the compatibility of generative linguistic theory and developmental theory, a result that certainly would not have been expected in the 1960s and 1970s as studies of child language began to flourish. The way is opened to future studies that may profit from this possibility.

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Data Appendix

AURIE 21 months

	utterance	subject	object	analysis	d	notes
1	bunny soft	L	-	bunny + soft	0	
2	do this	Om	D	do + this	0	(1)
3	do this	-	D	do + this	0	(1)
4	look at this (2)	-	D	look.at + this	0	(1), (2)
5	shoes on	L	-	shoes + on	0	(1)
6	tap them	Om	P	[tap [them]]	1	

AURIE 22 months

	utterance	subject	object	analysis	d	notes
1	eat it	-	P	[eat [it]]	1	
2	feel it	Om	P	[feel [it]]	1	
3	hold that	-	D	[hold [that]]	1	
4	I want	P	Om	[I [want]]	1	
5	I want that	P	D	[I [want [that]]]	2	
6	look at	-	P	look.at	0	
7	open soup	Om	L	open + soup	0	
8	open this (3)	Om	D	[open [this]]	1	
9	open this (4)	-	D	[open [this]]	1	
10	play with that	-	Other (PP)	[play.with [that]] or [play [with [that]]]	1 or 2	(3)
11	this hold	-	D	this + hold	0	
12	turn this	Om	D	[turn [this]]	1	

AURIE 23 months

	utterance	subject	object	analysis	d	notes
1	call Rachel	Om	N	call + Rachel	0	
2	close it	-	P	[close [it]]	1	
3	come out	-	-	come + out	0	(1)
4	do this	-	D	[do [this]]	1	
5	do this (2)	Om	D	[do [this]]	1	
6	don't eat it	-	P	[don't [eat [it]]]	2	(4)
7	I can	P	-	[I [can]]	1	
8	I did (2)	P	Om	[I [did]]	1	
9	I did it (2)	P	P	[I [did [it]]]	2	
10	I don't know	P	-	[I [don't [know]]]	2	
11	I want this	P	D	[I [want [this]]]	2	
12	I will find you	P	P	[I [will [find [you]]]]	3	
13	look at this	-	D	[look.at [this]]	1	
14	oh my foot stuck	L+	-	oh + [my [foot]] + stuck	1	(5)
15	open that	Om	D	[open [that]]	1	
16	open this	Om	D	[open [this]]	1	
17	Oscar sleeping down there	N	-	Oscar + [sleeping [down [there]]]	2	

AURIE 24 months

	utterance	subject	object	analysis	d	notes
1	and you need a cup	P	L+	[and [you [need [a [cup]]]]]	4	
2	baby look at	-	L	baby + look.at	0	
3	do it	Om	P	[do [it]]	1	
4	dollie's crying	L	-	[dollie ['s [crying]]]	2	
5	eat it	-	P	[eat [it]]	1	

6	eat the coffee	Om	L+	[eat [the [coffee]]]	2
7	eat the lemon	-	L+	[eat [the [lemon]]]	2
8	eat the orange	Om	L+	[eat [the [orange]]]	2
9	found Oscar	Om	N	[found [Oscar]]	1
10	go to bed	Om	-	[go [to [bed]]]	2
11	go to sleep Oscar	N	-	[go [to [sleep]]] + Oscar	2
12	I can't open this	P	D	[I [can't [open [this]]]]	3
13	I don't know	P	-	[I [don't [know]]]	2
14	I got it	P	P	[I [got [it]]]	2
15	I hate Oscar in the garbage-can	P	L+	[I [hate]] + [Oscar [in [the [garbage-can]]]]	3
16	I need	P	Om	[I [need]]	1
17	I need Oscar	P	N	[I [need [Oscar]]]	2
18	I need Oscar cup	P	L+	[I [need [Oscar [cup]]]]	3
19	I push it	P	P	[I [push [it]]]	2
20	I see Mommy	P	N	[I [see [Mommy]]]	2
21	I see two fish	P	L+	[I [see [two [fish]]]]	3 (6)
22	I wanna take it out	P	P	[I [wanna [take [it [out]]]]]	4
23	I want	P	Om	[I [want]]	1
24	I want both Oscar	P	Other (quant)	[I [want]] + [both [Oscar]]	1 (6), (7)
25	I want call	P	Other (VP)	[I [want]] + call	1 (7)
26	I want eat corn too	P	Other (VP)	[I [want]] + [eat [corn]] + too	1 (7)
27	I want find toys	P	Other (VP)	[I [want]] + [find [toys]]	1 (7)
28	I want go byebye	P	Other (VP)	[I [want]] + [go [byebye]]	1 (7)
29	I want kiss Oscar	P	Other (VP)	[I [want]] + [kiss [Oscar]]	1 (7)
30	I want my turn	P	L+	[I [want]] + [my [turn]]	1 (7)
31	I want one too	P	P	[I [want [one]]] + too	2
32	I want play	P	Other (VP)	[I [want]] + play	1 (7)

33	I want see this	P	Other (VP)	[I [want]] + [see [this]]	1	(7)
34	I want take it off	P	Other (VP)	[I [want]] + [take [it [off]]] or [I [want]] + [[take [it] [off]]]	2	(7), (8)
35	I want talk Grandpa Eli ok	P	Other (VP)	[I [want]] + [talk [Grandpa Eli]] + ok	1	(7)
36	I want this	P	D	[I [want [this]]]	2	
37	I want this fish	P	L+	[I [want [this [fish]]]]	3	
38	I want two fish	P	L+	[I [want [two [fish]]]]	3	
39	I want untie it	P	Other (VP)	[I [want]] + [untie [it]]	1	(7)
40	I want you	P	P	[I [want [you]]]	2	
41	I'm calling	P	-	[I ['m [calling]]]	2	
42	it's hot	P	-	[it ['s [hot]]]	2	
43	leave Oscar on the mud	-	Other (SC)	[leave [Oscar [on [the [mud]]]]]	4	
44	let me talk	-	-	[let [me [talk]]]	2	
45	let's go byebye (2)	-	-	let's-go + byebye	0	
46	look at the bunny	Om	L+	[look.at [the [bunny]]]	2	
47	look at the dolly	-	L+	[look.at [the [dolly]]]	2	
48	look at the long stripes	-	L+	[look.at [the [long [stripes]]]]	3	
49	look at this	-	D	[look.at [this]]	1	
50	look at (2)	-	-	look.at	0	
51	open this ok	Om	D	[open [this]] + ok	1	
52	Oscar mean (2)	N	-	Oscar + mean	0	
53	pat it	Om	P	[pat [it]]	1	
54	play with the baby (2)	Om	Other (PP)	[play [with [the [baby]]]]	3	
55	put it	-	P	[put [it]]	1	
56	put it in	Om	P	[put [it [in]]] or [[put [it] [in]]]	2	
57	put it there	-	P	[put [it [there]]] or [[put [it] [there]]]	2	
58	read this (2)	Om	D	[read [this]]	1	

59	spread it	Om	P	[spread [it]]	1	
60	take diaper off	Om	L	[take [diaper [off]]] or [[take [diaper]] [off]]	2	(8)
61	this sour	D	-	this + sour	0	
62	you have one too	P	P	[you [have [one]]] + too	2	
63	you have this one (2)	P	D	[you [have [this [one]]]]	3	
64	you kiss the booboo	P	L+	[you [kiss [the [booboo]]]]	3	
65	you need a cup (2)	P	L+	[you [need [a [cup]]]]	3	
66	you need a plate	P	L+	[you [need [a [plate]]]]	3	
67	you need a plate everyday	P	L+	[you [need [a [plate]]]] + everyday	3	

RICK 21 months

	utterance	subject	object	analysis	d	notes
1	drink a bottle	Om	L+	drink + [a [bottle]]	1	(1) for VO
2	drink it (2)	-	P	[drink [it]]	1	
3	fix it (2)	-	P	[fix [it]]	1	
4	he broke	P	-	[he [broke]]	1	(9)
5	hold it	Om	P	[hold [it]]	1	
6	I break it	P	P	[I [break [it]]]	2	
7	I broke it	P	P	[I [broke it]]	2	
8	I'm playing	P	-	[I ['m [playing]]]	2	
9	mommy, do it (5)	-	P	mommy + [do [it]]	1	
10	move it (3)	Om	P	[move [it]]	1	
11	pull it (2)	Om	P	[pull [it]]	1	
12	ride it	Om	P	[ride [it]]	1	
13	turn it	Om	P	[turn [it]]	1	
14	want some more	Om	Other (quant)	want + [some [more]]	1	(1) for VO

RICK 22 months

	utterance	subject	object	analysis	d	notes
1	bang it	Om	P	[bang [it]]	1	
2	cat do it	Om	P	cat + [do [it]]	1	
3	do it	-	P	[do [it]]	1	
4	drink it	Om	P	[drink [it]]	1	
5	fix it (1)	Om	P	[fix [it]]	1	
6	fix it (2)	-	P	[fix [it]]	1	
7	here mama do it	-	P	here + mama + [do [it]]	1	
8	I drink it	P	P	[I [drink [it]]]	2	
9	I fix it	P	P	[I [fix [it]]]	2	
10	I fix them mommy's	P	P	[I [fix [them]]] + [mommy ['s]]	2	
11	I want more rabbit	P	Other (quant)	[I [want]] + [more [rabbit]] or [I [want [more [rabbit]]]]	1 or 3	(10)
12	it's leaking	P	-	[it ['s [leaking]]]	2	
13	kiss it	-	P	[kiss [it]]	1	
14	mommy eat it	-	P	mommy + [eat [it]]	1	
15	mommy look	-	-	mommy + look	0	
16	mommy do it (10)	-	P	mommy + [do [it]]	1	
17	mommy open it	-	P	mommy + [open [it]]	1	
18	mommy put on foot	-	Om	mommy + [put [on [foot]]] or mommy + [[put [on] foot]	2	(8)
19	Nanna bought	N	Om	[Nanna [bought]]	1	
20	Nanna made that (3)	N	D	[Nanna [made [that]]]	2	
21	open it (2)	Om	P	[open [it]]	1	
22	open it (2)	-	P	[open [it]]	1	
23	open the door (2)	Om	L+	open + [the [door]] or [open [the [door]]]	1 or 2	(10)
24	Rick drink it	N	P	[Rick [drink [it]]]	2	

25	Shelley's coming	N	-	[Shelley ['s [coming]]]	2
26	taste it	-	P	[taste [it]]	1
27	tie it (1)	Om	P	[tie [it]]	1
28	tie it (2)	-	P	[tie [it]]	1
29	truck Nanna she made this	P	D	truck + Nanna + [she [made [this]]]	2 (11)
30	truck fix that (3)	Om	D	truck + [fix [that]]	1

RICK 23 months

	utterance	subject	object	analysis	d	notes
1	an apple want	Om	L+	[an [apple]] + want	1	
2	and open it	Om	P	[and [open [it]]]	2	
3	and use on the potty	Om	Other (PP)	[and [use]] + [on [the [potty]]]	2	(1)
4	apple want	Om	L	apple + want	0	
5	baby have	N	Om	baby + have	0	(12)
6	baby sleeping	N	-	baby + sleeping	0	
7	banana put it back	Om	P	banana + [put [it [back]]]	2	
8	bang the window (2)	Om	L+	bang + [the [window]]	1	
9	broke shoe	Om	L	[[broke [Tense/Agr]] + shoe	0 or 1	(13)
10	brush mommy	Om	N	brush + mommy	0	
11	brush mommy hair	Om	L+	brush + mommy + hair or brush + [mommy [hair]]	0 or 1	
12	bunny rabbit broke (2)	L	-	bunny-rabbit + [Tense/Agr [break]] or [bunny-rabbit [Tense/Agr [break]]]	1 or 2	
13	Carol needs it	N	P	[Carol [Tense/Agr [need [it]]]]	3	
14	close it (2)	Om	P	[close [it]]	1	
15	comb mommy hair	Om	L+	comb + mommy + hair or comb + [mommy [hair]]	0 or 1	
16	come mommy	-	-	come + mommy	0	(14)
17	corn good	L	-	corn + good	0	

		L	Om	cow + say		0
18	cow say					0
19	cow says that meow	L	D	[cow [Tense/Agr [say [that]]]] + meow		3
20	did it	Om	P	[did [it]]		1
21	eat an apple	Om	L+	eat + [an [apple]]		1
22	eats it	Om	P	[Tense/Agr [eat [it]]]		2
23	fix it (2)	Om	P	[fix [it]]		1
24	fix it please	-	P	[fix [it]] + please		1
25	get some more	Om	Other (quant)	[get [some-more]] or [get [some [more]]]		1 or 2
26	got lemon	Om	L	got + lemon or [Tense/Agr [get]] + lemon		0 or 1
27	hide it	Om	P	[hide [it]]		1
28	I close it	P	P	[I [close [it]]]		2
29	I do it	P	P	[I [do [it]]]		2
30	I eat it	P	P	[I [eat [it]]]		2
31	I fix it	P	P	[I [fix [it]]]		2
32	I hide them	P	P	[I [hide [them]]]		2
33	I opened it	P	P	[I [Tense/Agr [open [it]]]]		3
34	I take it	P	P	[I [take [it]]]		2
35	I want apple (2)	P	L	[I [want]] + apple		1
36	I want it	P	P	[I [want [it]]]		2
37	I'm gonna bang the window	P	L+	[I ['m [gonna [bang]]]] + [the [window]]		3 (1) for VO
38	I'm stuck	P	-	[I ['m [stuck]]]		2
39	I'm tired	P	-	[I ['m [tired]]]		2
40	it's green	P	-	[it ['s [green]]]		2
41	it's warm (2)	P	-	[it ['s [warm]]]		2
42	mommy have	N	Om	mommy + have		0
43	mommy have it	N	P	mommy + [have [it]]		1
44	mommy talk	N	-	mommy + talk		0

45	mommy taste		N	Om	mommy + taste		0
46	open it		Om	P	[open [it]]		1
47	open that		Om	D	[open [that]]		1
48	open this (2)		Om	D	[open [this]]		1
49	put shoe mommy		Om	L	put + shoe + mommy		0
50	put them away		Om	P	[put [them [away]]] or [[put [them]] [away]]		2
51	say puppet		L	Om	say + puppet		0
52	Shelley have it		N	P	[Shelley [have [it]]]		2
53	shoes on		L	-	shoes + on or [shoes [on]]		0 or 1
54	take it off		-	P	[take [it [off]]] or [[take [it]] [off]]		2
55	this broke		D	-	[this [Tense/Agr [break]]]		2
56	we fix it		P	P	[we [fix [it]]]		2

RICK 24 months

		33					
		subject	object	analysis		d	notes
1	all fit	Other (quant)	-	all + fit		0	(15)
2	broke it	Om	P	[broke [it]] or [Tense/Agr [break [it]]]		1 or 2	
3	can't go in	Om	-	[can't [go [in]]]		2	
4	Carol sitting down	N	-	[Carol [sitting [down]]]		2	
5	clean that off	Om	D	[clean [that [off]]] or [[clean [that]] [off]]		2	
6	close now	Om	Om	close + now		0	
7	combing the wall	Om	L+	[combing [the [wall]]]		2	
8	cut this	Om	D	[cut [this]]		1	
9	do it	Om	P	[do [it]]		1	
10	do this	-	D	[do [this]]		1	
11	doggy eating	L	-	doggy + eating		0	
12	doggy go	L	-	doggy + go		0	

13	eat it (2)	Om	P	[eat [it]]		1	
14	eat the grapes	Om	L+	[eat [the [grapes]]]		2	
15	fall down	Om	-	[fall [down]]		1	
16	farm set go	Om	-	farm-set + go		0	(16)
17	give them some shoe	Om	P	[give [them]] + [some [shoe]] or [give [them [some [shoe]]]]		1 or 3	
18	hold that	-	D	[hold [that]]		1	
19	I'm gonna cut	P	Om	[I 'm [gonna [cut]]]		3	
20	jingle bell get that out	Om	D	jingle-bell + [get [that [out]]] or jingle-bell + [[get [that]] [out]]		2	(8)
21	mommy do this	N	D	[mommy [do [this]]]		2	
22	mommy read	N	Om	[mommy [read]]		1	
23	monkey crying	L	-	monkey + crying		0	
24	mopping the wall	Om	L+	[mopping [the [wall]]]		2	
25	open that	Om	D	[open [that]]		1	
26	open this	Om	D	[open [this]]		1	
27	pull it coming	Om	P	[pull [it]] + coming		1	
28	put this on	Om	D	[put [this [on]]] or [[put [this]] [on]]		2	
29	put this on (2)	-	D	[put [this [on]]] or [[put [this]] [on]]		2	
30	put toys in there	Om	L	[put [toys [in [there]]]]		3	
31	read this	-	D	[read [this]]		1	
32	see big truck	-	L+	[see [big [truck]]]		2	
33	see the spoon	-	L+	[see [the [spoon]]]		2	
34	take it out	Om	P	[take [it [out]]] or [[take [it]] [out]]		2	(8)
35	the doggie go	L+	-	[[the [doggie]] [go]]		2	
36	this go	D	-	this + go		0	
37	toes will get cold toes	L	-	[toes [will [get [cold]]]] + toes		3	
38	wipe it off	Om	P	[wipe [it [off]]] or [[wipe [it]] [off]]		2	
39	you can do it	P	P	[you [can [do [it]]]]		3	

40	you can do that	P	D	[you [can [do [that]]]]	3
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ALICE 18 months

	subject	object	analysis	d	notes
1	N	-	baby + in	0	(1)
2	N	-	baby + sit + truck	0	(1)
3	Om	-	bang + hammer	0	
4	L	-	beads + pretty	0	(1)
5	Om	L	buy + candy	0	(1)
6	Om	Om	car + ride + car	0	
7	L	-	doll + ride	0	(1)
8	L	-	drive + man	0	(1)
9	Om	L	feel + bunny	0	(1)
10	L	-	man + drive	0	(1)
11	Om	N	ride + baby	0	(1)
12	Om	-	ride + car	0	
13	Om	-	ride + truck	0	
14	Om	-	sit + down or sit.down	0	
15	Om	N	talk.to + mom	0	(1)
16	Om	-	truck + ride	0	
17	-	P	[try [it]]	1	

ALICE 19 months

utterance	subject	object	analysis	d	notes
1 beads on	unanalyzable	unanalyzable	beads + on or [beads [on]]	0 or 1	(17)
2 bunny lady coming	N	-	bunny-lady + coming	0	
3 clean floor	Om	L	[clean [floor]]	1	

4	clean floor up (2)	Om	L	[clean [floor [up]]] or [[clean [floor]] [up]]	2
5	clean up floor	Om	L	[clean.up [floor]] or [[clean [up]] [floor]]	0, 1, or 2
6	coat off	unanalyzable	unanalyzable	coat + off or [coat [off]]	0 or 1
7	cut face	Om	L	[cut [face]]	1
8	cut finger	Om	L	[cut [finger]]	1
9	cut it off	Om	P	[cut [it [off]]] or [[cut [it]] [off]]	2
10	diaper off	unanalyzable	unanalyzable	diaper + off or [diaper [off]]	0 or 1
11	drink bottle	Om	L	[drink [bottle]]	1
12	drink it	Om	P	[drink [it]]	1
13	drink it baby	Om	P	[drink [it]] + baby	1
14	drink up milk	Om	L	[drink.up [milk]] or [drink [up]] + milk or [[drink [up]] [milk]]	1 or 2
15	eat baby	-	-	eat + baby	0
16	face touch face	Om	L	face + [touch [face]]	1
17	feel pom-pom	Om	L	[feel [pom-pom]]	1
18	find bunny rabbit	Om	N	[find [bunny-rabbit]]	1
19	find doll	Om	L	[find [doll]]	1
20	found Grover	Om	N	[found [Grover]]	1
21	found him (4)	Om	P	[found [him]]	1
22	get hat	Om	L	[get [hat]]	1
23	get hat	-	L	[get [hat]]	1
24	get it	Om	P	[get [it]]	1
25	hammer car	Om	L	[hammer [car]]	1
26	hammer door(2)	Om	L	[hammer [door]]	1
27	hand caught	L	-	hand + caught	0
28	hat off	unanalyzable	unanalyzable	hat + off or [hat [off]]	0 or 1
29	hat on	unanalyzable	unanalyzable	hat + on or [hat [on]]	0 or 1

30	have milk pocketbook	Om	L	[have [milk]] + pocketbook	1
31	hold baby	Om	L	[hold [baby]]	1
32	hold baby	-	L	[hold [baby]]	1
33	I close him	P	P	[I [close [him]]]	2
34	I finish	P	-	[I [finish]]	1
35	I sit down	P	-	[I [sit.down]] or [I [sit [down]]]	1 or 2
36	in here look around Oscar grouch	unanalyzable	unanalyzable	[in [here]] + [look [around]] + [Oscar [grouch]]	1
37	make cereal	Om	L	[make [cereal]]	1
38	make clean	Om	Other (adj)	[make [clean]]	1
39	make floor clean	Om	Other (SC)	[make [floor [clean]]]	2
40	man man drive	L	-	man + man + drive	0
41	mommy fit truck	-	L	mommy + [fit [truck]]	1
42	mommy get hat	-	L	mommy + [get [hat]]	1
43	mommy help	-	-	mommy + help	0
44	mommy hold baby	-	L	mommy + [hold [baby]]	1
45	mommy mommy open	-	Om	mommy + mommy + open	0
46	mommy warm	Om	-	mommy + warm	0
47	my have	P	-	[my [have]]	1
48	oh grandma wears hat	N	L	oh + grandma + [wears [hat]] or oh + [grandma [wears [hat]]]	1 or 2
49	Oscar find Oscar	Om	N	Oscar + [find [Oscar]]	1
50	Oscar found him	Om	P	Oscar + [found [him]]	1
51	play animal	Om	-	play + animal	
52	play eat make tea	Om	Other (V)	play + eat + [make [tea]]	0
53	play more toys	Om	Other (quant)	play + [more [toys]] or [play [more [toys]]]	1 or 2
54	scarf on	unanalyzable	unanalyzable	scarf + on or [scarf [on]]	0 or 1
55	stuck hand	L	-	stuck + hand	

56	sweater off	unanalyzable	unanalyzable	unanalyzable	sweater + off or [sweater [off]]	0 or 1
57	sweater on	unanalyzable	unanalyzable	unanalyzable	sweater + on or [sweater [on]]	0 or 1
58	take blanket off	Om	L	L	[take [blanket [off]]] or [[take [blanket]] [off]]	2
59	take coat off	Om	L	L	[take [coat [off]]] or [[take [coat]] [off]]	2
60	take hat off	Om	L	L	[take [hat [off]]] or [[take [hat]] [off]]	2
61	take my off too	unanalyzable	unanalyzable	unanalyzable	[take [my [off]]] + too	2
62	take out baby	Om	L	L	[[take [out]] [baby]] or [take [out [baby]]]	2
63	too warm hold baby mommy	unanalyzable	unanalyzable	unanalyzable	[too [warm]] + [hold [baby]] + [mommy [hold]]	1
64	touch door	Om	L	L	[touch [door]]	1
65	two same	Other(Quant)	-	-	two + same	0
66	want apple	Om	L	L	[want [apple]]	1

ALICE 20 months

	utterance	subject	object	analysis	d	notes
1	baby coat hat off	L	-	baby + [[coat + hat] [off]]	1	(18)
2	baby doll have hat on	L+	L	baby-doll + [have [hat [on]]] or baby-doll + [[have [hat]] [on]]	1 or 2	
3	baby go outside	N	-	baby + go + outside or baby + [go [outside]]	0 or 1	
4	baby sit up	N	-	baby + [sit [up]]	1	
5	baby want tea	N	L	baby + [want [tea]]	1	
6	broke mailman	L	-	broke + mailman	0	
7	bunny rabbit on cover	L+	-	bunny-rabbit + [on [cover]]	1	
8	buy all stuff	Om	Other (quant)	[buy [all [stuff]]]	2	
9	buy something good	Om	P+	[buy [something [good]]]	2	
10	can't find bunny rabbit	Om	L	[can't [find [bunny-rabbit]]]	2	
11	catch cold	Om	-	[catch [cold]]	1	
12	clean milk	Om	L	[clean [milk]]	1	

13	clean up floor	Om	L	[clean [up [floor]]] or [[clean [up]] [floor]]	2	
14	clean up floor too	Om	L	[clean [up [floor]]] + too or [[clean [up]] [floor]] + too	2	
15	come baby	-	-	come + baby	0	(14)
16	come on baby	-	-	[come [on]] + baby	1	
17	cover on mommy	Om	L	[cover [on]] + mommy	1	(14) for mommy
18	cut nail	Om	L	[cut [nail]]	1	
19	Daddy shirt all clean now	L+	-	daddy + shirt + [all [clean]] + now or [daddy [shirt]] + [all [clean]] + now	1	
20	don't drink that no	-	D	[don't [drink [that]]] + no	2	
21	don't have shoe on	-	L	[don't [have [shoe [on]]]] or [don't [[have [shoe]] [on]]]	3	
22	don't want that	-	D	[don't [want [that]]]	2	
23	drink my tea	Om	L+	[drink [my [tea]]]	2	
24	eat bottle	Om	L	[eat [bottle]]	1	
25	eat egg	Om	L	[eat [egg]]	1	
26	elephant find	Om	L	elephant + find	0	
27	fill up brim tea	Om	L+	[fill [up]] + brim + tea	1	
28	find Grover	Om	N	[find [Grover]]	1	
29	get baby bottle (2)	Om	L+	[get [baby + bottle]] or [get [baby [bottle]]]	1 or 2	
30	get baby hat	Om	L+	[get [baby + hat]] or [get [baby [hat]]]	1 or 2	
31	get coffee tea	Om	L	[get [coffee + tea]]	1	
32	get cup	Om	L	[get [cup]]	1	
33	get cup, mommy	Om	L	[get [cup]] + mommy	1	(14) for mommy
34	get married	Om	-	[get married]	1	
35	get my bottle	Om	L+	[get [my [bottle]]]	2	
36	get tea	Om	L	[get [tea]]	1	
37	go out baby doll	Om	-	go + out + baby-doll or [go [out]] + baby-doll	0 or 1	
38	have clean up here	Om	-	[have [clean [up]]] + here	2	
39	have picnic baby	Om	-	[have [picnic]] + baby	1	(14) for baby
40	have picnic tomorrow	Om	-	[have [picnic]] + tomorrow	1	

41	have some tea	-	Other (quant)	[have [some [tea]]]	2
42	have these toys no	Om	L+	[have [these [toys]]] + no	2
43	iron shirt daddy	Om	L	[iron [shirt]] + daddy	1
44	leave underwear on	Om	L	[leave [underwear [on]]] or [[leave [underwear]] [on]]	2
45	let's see that	-	D	[let's [see [that]]]	2
46	like tea	Om	L	[like [tea]]	1
47	look something else	-	P+	look + [something [else]] or [look [something [else]]]	1 or 2
48	look that mommy daddy	Om	D	[look [that]] + mommy + daddy	1
49	make long train	Om	L+	[make [long + train]]	1
50	mommy help baby take coat off	-	L	mommy + help + baby + [take [coat [off]]] or mommy + help + baby + [[take [coat]] off]	2 (7)
51	open that	Om	D	[open [that]]	1
52	play toy	Om	L	[play [toy]]	1
53	play with something else	Om	P+	[play.with [something [else]]] or [play [with [something [else]]]]	2 or 3
54	pull coat on	Om	L	[pull [coat [on]]] or [[pull [coat]] [on]]	2
55	pull coat on baby	Om	L	[pull [coat [on]]] + baby or [[pull [coat]] [on]] + baby or [pull [coat]] + [on [baby]]	1 or 2
56	pull off hat	Om	L	[pull [off]] + hat or [[pull [off]] [hat]]	1 or 2
57	put hat coat on	Om	L	[put [[hat + coat] [on]]] or [[put [hat + coat]] [on]]	2
58	put hat on (2)	Om	L	[put [hat [on]]] or [[put [hat]] [on]]	2
59	put more in that	Om	Other (quant)	[put [more]] + [in [that]] or [put [more [in [that]]]]	1 or 3
60	put more milk	Om	Other (quant)	[put [more [milk]]]	2
61	put on self	Om	P	[put [on]] + self or [put [on [self]]]	1 or 2
62	put on that	Om	D	[put [on]] + that or [[put [on]] that]	1 or 2
63	say hello daddy (2)	Om	N	[say [hello]] + daddy	1
64	see that puzzle	Om	D	[see [that]] + puzzle	1
65	take clothes off	Om	L	[take [clothes [off]]] or [[take [clothes]] [off]]	2
66	take clothes off baby	Om	L	[take [clothes [off]]] + baby or [[take [clothes]] [off]] +	2

67	take coat off	Om	L		baby					
68	take egg	Om	L							2
69	take hat off	Om	L							1
70	take hat off too mommy	Om	L							2
71	take that baby	Om	D							2
72	that mine	D	-							1
73	those say that	D	D							0
74	took Oscar	Om	N							1
75	want on baby	Om	Om							1 or 2
76	want ShopRite baby	Om	Om							0
77	you help me	P	P							2
78	you help me now	P	P							2

ALICE 21 months

	utterance	subject	object	analysis	d
1	all done put glasses away mommy	Om	L	all-done + [put [glasses [away]]] + mommy or all-done + [[put [glasses]] [away]] + mommy	2
2	almost ready mommy	Om	-	[almost [ready]] + mommy	1
3	baby cold	N	-	baby + cold	0
4	baby don't want that	N	D	[baby [don't [want [that]]]]	3
5	baby got hat on	N	L	[baby [got [hat [on]]]] or [baby [[got [hat]] [on]]]	3
6	baby got hat on mommy	N	L	[baby [got [hat [on]]]] + mommy or [baby [[got [hat]] [on]] + mommy]	3
7	baby has to get off	Om	-	baby + [has [to [get [off]]]]	3
8	baby have	Om	Om	baby + have	0
9	baby have birthday party	Om	L	baby + [have [birthday-party]]	1
10	baby have on arm mommy	Om	Om	[baby [have]] + [on [arm]] + mommy	1

11	baby have put over	Om	Om	Om	baby + have + [put [over]] or baby + [have [put [over]]]	1 or 2	(18) for baby
12	baby have some tea	Om	Om	L+	baby + [have [some [tea]]]	2	(14) for baby
13	baby have tea	Om	Om	L	baby + [have [tea]]	1	(14) for baby
14	book hide mommy	Om	Om	L	book + hide + mommy	0	(14) for mommy
15	can't close that mommy	Om	Om	D	[can't [close [that]]] + mommy	2	
16	can't open that pocketbook mommy	Om	Om	unanalyzable	[can't [open [that]]] + pocketbook + mommy or [can't [open [[that] pocketbook]]] + mommy	2 or 3	
17	can't open that up mommy	Om	Om	D	[can't [open [that [up]]]] + mommy or [can't [[open [that] [up]]] + mommy	3	
18	can't put him back	Om	Om	P	[can't [put [him [back]]]] or [can't [[put [him] [back]]]	3	
19	can't put him back mommy (2)	Om	Om	P	[can't [put [him back]]] + mommy or [can't [[put him back]] + mommy	3	
20	can't put it on plate mommy	Om	Om	P	[can't [put [it [on [plate]]]]] + mommy	4	
21	can't put that on plate mommy (2)	Om	Om	D	[can't [put [that [on [plate]]]]] + mommy	4	
22	can't put that on there mommy	Om	Om	D	[can't [put [that [on [there]]]]] + mommy	4	
23	can't take that hat off (2)	Om	Om	unanalyzable	[can't [take [that [hat [off]]]]] or [can't [take [[that [hat] [off]]]]	4	
24	can't take that off	Om	Om	D	[can't [take [that [off]]]] or [can't [[take [that] [off]]]	3	
25	cut wood	Om	Om	L	[cut [wood]]	1	
26	dirty mommy	Om	Om	-	dirty + mommy	0	
27	doggy on Alice	L	L	-	doggy + [on [Alice]]	1	(19)
28	doggy on something	L	L	-	doggy + [on [something]]	1	
29	don't eat skin part	Om	Om	L+	[don't [eat [skin [part]]]]	3	
30	don't have coat on baby no	Om	Om	unanalyzable	[don't [have [coat [on]]]] + baby + no or [don't [[have [coat] [on]]] + baby + no	3	
31	elephant sleep now mommy	L	L	-	elephant + sleep + now + mommy	0	
32	elephant wake up morning	-	-	-	elephant + [wake [up]] + morning	1	(7)
33	hat take that off too mommy	Om	Om	D	hat + [take [that [off]]] + too + mommy	2	

34	have cocoa	Om	L	[have [cocoa]]	1
35	have it	Om	P	[have [it]]	1
36	have put over you baby	Om	Om	have + [put [over [you]]] + baby	2 (20)
37	he wake up	P	-	[he [wake [up]]]	2
38	he wake up mommy (2)	P	-	[he [wake [up]]] + mommy	2
39	help put it down here mommy	-	P	help + [put [it [down [here]]]] + mommy	3
40	hold them baby	Om	P	[hold [them]] + baby	1
41	hold them baby mommy	Om	P	[hold [them]] + baby + mommy	1
42	I buy something in that pocketbook	P	P+	[I [buy [something]]] + [in [that [pocketbook]]] or [I [buy [something [in [that [pocketbook]]]]]]	2 or 5
43	I buy something in that pocketbook mommy	P	P+	[I [buy [something]]] + [in [that [pocketbook]]] + mommy or [I [buy [something [in [that [pocketbook]]]]]] + mommy	2 or 5
44	I can't open that up mommy	P	D	[I [can't [open [that [up]]]]] + mommy or [I [can't [[open [that]] [up]]]] + mommy	4
45	I cut that down (2)	P	D	[I [cut [that [down]]]] or [I [cut [[that] [down]]]]	3
46	I eat egg	P	L	[I [eat [egg]]]	2
47	I got some	P	P	[I [got [some]]]	2
48	I got some in pocketbook	P	P	[I [got [some]]] + [in [pocketbook]] or [I [got [some [in [pocketbook]]]]]	2 or 4
49	I hammer mommy	P	Om	[I [hammer]] + mommy	1
50	I have some tea too	P	Other (quant)	[I [have [some [tea]]] + too	3
51	I like that elephant	P	L+	[I [like [that]]] + elephant or [I [like [that [elephant]]]]	2 or 3
52	I made some tea mommy	P	Other (quant)	[I [made [some [tea]]] + mommy	3
53	I need bottle mommy	P	L	[I [need [bottle]]] + mommy	2
54	I open her all up	P	P	[I [open [her]] [all [up]]]	3
55	I see this	P	D	[I [see [this]]]	2
56	I sit down mommy	P	-	[I [sit [down]]] + mommy	2
57	I take	P	Om	[I [take]]	1
58	I take baby hat off mommy	P	L+	[I [take [[baby + hat] [off]]]] + mommy or [I [[take [baby + hat]] [off]]] + mommy or [I [take [baby [hat]] [off]]] +	3 or 4

59	I take coat off mommy	P	L			mommy or [I [[take [baby [hat]]] [off]]] + mommy	[I [take [coat [off]]]] + mommy or [I [[take [coat]] [off]]] + mommy	3	
60	I take hat off	P	L			[I [take [hat [off]]]] or [I [[take [hat]] [off]]]	[I [take [hat [off]]]] or [I [[take [hat]] [off]]]	3	
61	I throw that apple away mommy	P	L+			[I [throw [that [apple]] [away]]] + mommy	[I [throw [that [apple]] [away]]] + mommy or [I [throw [that [apple]]] [away]] + mommy	4	
62	I throw that away mommy	P	D			[I [throw [that]] [away]] + mommy	[I [throw [that]] [away]] + mommy or [I [throw [that [away]]] + mommy	3	
63	I want page have girl	P	L+			[I [want [page [have [girl]]]]] or [I [want [page + [have [girl]]]]]	[I [want [page [have [girl]]]]] or [I [want [page + [have [girl]]]]]	4 or 3	
64	jacket off	Om	L			jacket + off or [jacket [off]]	jacket + off or [jacket [off]]	0 or 1	
65	Joanie doll on mommy	L+	-			[Joanie [doll]] + on + mommy or [[Joannie + doll] on] + mommy or [[Joanie [doll]] on] + mommy	[Joanie [doll]] + on + mommy or [[Joannie + doll] on] + mommy or [[Joanie [doll]] on] + mommy	1 or 2	
66	leave underwear on	Om	L			[leave [underwear [on]]] or [[leave [underwear]] [on]]	[leave [underwear [on]]] or [[leave [underwear]] [on]]	2	
67	look pretty mommy	Om	-			[look [pretty]] + mommy	[look [pretty]] + mommy	1	
68	mommy no don't have coat	Om	L			mommy + no + [don't [have [coat]]]	mommy + no + [don't [have [coat]]]	2	(21)
69	move that back for Alice	Om	D			[move [that [back]]] + [for [Alice]]	[move [that [back]]] + [for [Alice]]	2	
70	no come in	Om	-			no + [come [in]]	no + [come [in]]	1	
71	now close again	Om	Om			now + close + again	now + close + again	0	
72	now close now mommy	Om	Om			now + close + now + mommy	now + close + now + mommy	0	
73	now look at pig one more mommy	Om	L			now + [look.at [pig]] + [one [more]] + mommy	now + [look.at [pig]] + [one [more]] + mommy	1	
74	now make some more tea mommy	Om	Other (quant)			now + [make [some [more [tea]]]] + mommy	now + [make [some [more [tea]]]] + mommy	3	
75	now put elephant	Om	L			now + [put [elephant]]	now + [put [elephant]]	1	
76	put all saucer on that	unanalyzable	unanalyzable			[put [[all + saucer] [on [that]]]]	[put [[all + saucer] [on [that]]]]	3	
77	put bonnet mommy	Om	L			[put [bonnet]] + mommy	[put [bonnet]] + mommy	1	
78	put bonnet over you	Om	L			[put [bonnet [over [you]]]]	[put [bonnet [over [you]]]]	3	
79	put bonnet over you baby (2)	Om	L			[put [bonnet [over [you]]]] + baby	[put [bonnet [over [you]]]] + baby	3	
80	put down for baby	Om	Om			[put [down]] + [for [baby]]	[put [down]] + [for [baby]]	1	

81	put it on here	Om	P	[put [it [on [here]]]]	3
82	put on her head	Om	L+	[put [on [her [head]]]]	3
83	put on neck	Om	Om	[put [on [neck]]]	2
84	put that in there	Om	D	[put [that [in [there]]]]	3
85	put that on baby mommy	-	D	[put [that [on [baby]]]] + mommy	3
86	put that on mommy	-	D	[put [that [on]]] + mommy	2
87	put that on there	Om	D	[put [that [on [there]]]]	3
88	remember that little bunny mommy ?	-	L+	[remember [that [little [bunny]]]] + mommy	3
89	ride in that	Om	-	[ride [in]] + that	1
90	sit down with dolly mommy	Om	-	[sit [down]] + [with [dolly]] + mommy	1
91	sit in the boat	-	-	[[sit [in]] [the [boat]]] or [sit [in [the [boat]]]]	2 or 3
92	sit in there now you roll	2 verbs	2 verbs	[sit [in [there]]] + now + [you [roll]]	2
93	sit in you ride in there	2 verbs	2 verbs	[sit [in]] + [you [ride]] + [in [there]] or [sit [in]] + [you [ride [in [there]]]]	1 or 3
94	sit next doggy too	Om	-	sit + [next [doggy]] + too	1
95	sit next doggy too mommy	Om	-	sit + [next [doggy]] + too + mommy	1
96	sitting next Alice (2)	Om	-	sitting + [next [Alice]]	1
97	take Grover mommy	Om	N	[take [Grover]] + mommy	1
98	take hand	Om	L	[take [hand]]	1
99	take nice shoes off	Om	L+	[take [[nice + shoes] [off]]] or [[take [nice + shoes]] [off]]	2
100	take shoes off	Om	L	[take [shoes [off]]] or [[take [shoes]] [off]]	2
101	take that bonnet off	Om	L+	[take [that [bonnet [off]]]] or [[take [that [bonnet]]] [off]]	3
102	take that bonnet off mommy	Om	L+	[take [that [bonnet [off]]]] + mommy or [[take [that [bonnet]]] [off]] + mommy	3
103	that for baby mommy	D	-	that + [for [baby]] + mommy	1
104	that girl have jeans on	L	L	[that [girl]] + [have [jeans [on]]] or [that [girl]] + [[have [jeans]] [on]]	2
105	that girl have take that jacket mommy	L+	Other (VP)	[that [girl]] + [have [take [that [jacket]]]] + mommy	4

106	that hot	D	-	that + hot	0
107	that put all	Om	Other (quant)	that + [put [all]]	1
108	that underwear on	L+	-	that + underwear + on or that + [underwear [on]]	0 or 1
109	that underwear on mommy	L+	-	that + underwear + on + mommy or that + [underwear [on]] + mommy	0 or 1
110	wake up elephant wake up	-	-	[wake [up]] + elephant + [wake [up]]	1

Notes:

- (1) No evidence for asymmetrical merge.
- (2) Presumably single-unit (lexical) verbs (e.g., *look at*) are treated as one unit (*look* does not require a thing that's looked at, *talk to* talk does not require a person you talk to, etc.)
- (3) With verbs that select a PP complement (e.g., *play with* (requires instruments/object), *put on* (the table) requires a location)), PP is treated as ambiguous between asymmetrically merged to the V for max d (because intersective meaning highly unlikely); and the verb and P treated as a single unit.
- (4) *Don't*, *can't*, etc. are treated as one item.
- (5) Complex pronouns (*something else*) as well as complex lexical nouns (including demonstratives (*that shoe*), genitives (*mommy's shoe*), determiners (*the/a dog*) and adjectival modification (*big truck*)) were noted as such. We used a + sign to indicate the complexity.
- (6) *Two* is a determiner vs. *both* is a quantifier.
- (7) Analyzed in this way because of a pause.
- (8) We assume that in particle-verbs particles are functional (hence are combined via asymmetrical merge):

Logical possibilities for, e.g., *clean floor up*:

- | | |
|---|---|
| <ol style="list-style-type: none"> a. clean + floor + up b. [clean [floor]] + up c. clean + [floor [up]] d. [clean [floor [up]]] e. [[clean [floor]] [up]] f. [clean [floor + up]] g. [(clean + floor) up] | <p>excluded because <i>up</i> is functional</p> <p>excluded since <i>up</i> is functional</p> <p>excluded since unlikely meaning (unclear what would [floor up] mean without reference to the meaning of <i>clean</i>, which wouldn't be possible ('x is clean and x is a floor up'))</p> <p>possible</p> <p>possible</p> <p>excluded because <i>up</i> is functional</p> <p>unlikely if child already asymmetrically merges lexical objects, hard to think wouldn't do that here</p> |
|---|---|

Logical possibilities for, e.g., *clean up floor*:

- a. clean + up + floor
excluded because *up* is functional
- b. [clean up] + floor
possible
- c. clean + [up floor]
excluded because unlikely meaning (see 3. above)
- d. [clean [up floor]]
small clause analysis implausible (*up* would have to be a subject)
- e. [[clean up] floor]
possible
- f. [clean (up + floor)]
excluded because *up* is functional
- g. [(clean + up) floor]
excluded because *up* is functional

- (9) Irregular verbs are treated as ambiguous with respect to Tense, because they could be unanalyzed units. From the session where a child demonstrates past tense as productive with regular verbs, irregular past is also credited.
- (10) In this transitional month it is unclear whether Rick is asymmetrically merging lexical items.
- (11) When a nominal is coreferential with a pronoun/deictic element in the same utterance we count the pronoun/deictic element. That is, in *truck fix* we would count a lexical object, but in *truck fix that* (Rick, 22 months) we would count a deictic object.
- (12) *Elephant, baby, doggy* are treated as names instead of lexical nouns: if the child uses it as a vocative we consider it a name throughout that month. Strictly speaking, it is not clear whether any particular child at a particular month has a distinction between names and lexical nouns.
- (13) Evidence for the use of Tense / Agreement from 23 months; see main text.
- (14) Vocative use.
- (15) Meaning 'all fit in the truck'
- (16) Meaning 'some piece goes with the farm set'
- (17) *Unanalyzable* Subject/Object means that there is not enough evidence for analysing the nominal as being the subject or the object of the predication.
- (18) Extraposed topic.
- (19) No evidence that Alice AMs lexical subjects in this session.
- (20) Meaning 'I have to put this over you baby'.
- (21) Meaning 'the doll doesn't have a coat on, mommy'.

7. Curriculum Vitae

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Domaines de spécialisation

Linguistique formelle ; Syntaxe ; Interface syntaxe-sémantique ; Acquisition langue maternelle.

Expériences professionnelles

- janv. 2011 Titularisation sur le poste de Maître de Conférences n°0700MCF1076, section Sciences du Langage, classe normale, 5^e échelon. Université Paris 8
- janv. 2010 Nomination sur le poste de Maître de Conférences n°0700MCF1076, section Sciences du Langage, classe normale, 4^e échelon. Université Paris 8
- janv. 2010 Rattachement à l'UMR 7023 "Structures Formelles du Langage" (SFL), Université Paris 8 (dir. Sophie Wauquier et Maya Hickman)
- 2006-2010 Post-doc au *Center for Advanced Study in Theoretical Linguistics* (CASTL), Université de Tromsø, Norvège. financé par le Norwegian Research Council.
- 2000-2002 Assistant Lecturer, Department of French and Italian, University of Southern California (USC).
- 1996-1998 Tutrice de Linguistique, Département des Sciences du Langage, Université de Paris 8 - Saint Denis.

Etudes et diplômes

- 2006 DOCTORAT (Ph.D) en Linguistique, University of Southern California (USC)
- Titre : *Non-verbal predications : a syntactic analysis of predicational copular sentences*
thèse soutenue le 19 octobre 2005 à Los Angeles, Department of Linguistics
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- Directrice de thèse : Hagit Borer
Comité de thèse (Ph.D committee) : James Higginbotham (USC, Philosophy), Roumyana Pancheva (USC, Linguistics), Elena Guerzoni (USC, Linguistics), Audrey Li (USC, East Asian Studies)
- 2001 MASTER (MA) en Linguistique, University of Southern California (USC)
- Titre : *Weak des/du NPs and judgment forms*
Directrice de recherche : Maria Luisa Zubizarreta
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- 1999 1^{re} année de DULCO, Institut National des Langues et Civilisations Orientales (INALCO), Paris. Spécialité : Persan
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- 1995 DEUG en Sciences du Langage, Université de Paris 8 - Saint-Denis

Bourses d'étude

- 2010 Finaliste du Concours des Boursières d'Excellence de l'UNIGE, Genève.
 (candidature retirée, janvier 2010 après acceptation du poste de MCF de Paris8).
- 2005 *Final Summer Dissertation Fellowship*, College of Letters, Arts et Sciences, USC
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- 2004-2005 *Dissertation Fellowship*, College of Letters, Arts et Sciences, USC
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- 2003-2004 *College Merit Award*, College of Letters, Arts et Sciences, USC
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- 2003 *Advanced Fellowship*, College of Letters, Arts et Sciences, USC
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- 1999-2000 *College Merit Award*, College of Letters, Arts et Sciences, USC
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- 1998 bourse de voyage pour assister à la 5ème Ecole d'Été d'Europe Centrale en Gram-
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- 1997 bourse de voyage pour assister à la 4ème Ecole d'Été d'Europe Centrale en
 Grammaire Générative, U. Paris 8
- 1996 bourse de voyage et séjour pour assister à l'Ecole d'Été Internationale de Lin-
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Publications

ARTICLES

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 and Recursion as generative processes in the transition from single words to
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- evidence from adults and children”. *Workshop on the Morphological, Syntactic and Semantic Aspects of Dispositions*, University of Stuttgart.
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- 2001 Roy, Isabelle. (2001). "Predicate Nominals in French", *1st Graduate Student in Linguistics workshop*, USC.
- 1997 Roy, Isabelle. (1997). "La construction *Nous avons en Latrogne un fameux maître d'équipage* : un cas particulier d'inversion locative". *5eme Atelier de Doctorants en Linguistique (ADL5)*, Université de Paris 7, Jussieu.
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- 2013 Roy, Isabelle. (2013). "Les propriétés d'événement interne des noms en -er." *JET Noms d'humains*, Strasbourg.
- 2013 Roy, Isabelle & Elena Soare. (2013). "Event-related Nominals". *Workshop Plurals and Nominalizations*, IHPST, Paris.
- 2012 Roy, Isabelle. (2012). "Nonverbal Predication : Adjectives and Nouns". *Adjectives Workshop*, UMR STL, U. Lille 3.
- 2011 Borer, Hagit & Isabelle Roy. (2011). "The Name of the adjective", *Workshop on the syntax and the semantics of Nounhood and Adjectivehood*, UAB, Barcelona.

- 2010 Roy, Isabelle. (2010). “Deadjectival nominalizations and the structure of the adjective”. *Paris-Kyoto Semantics Workshop*, IHPST, Paris.
- 2010 Roy, Isabelle & Elena Soare. (2010). “Naming participants in the Event : *-ant/-eur/-é* nominals in French and compositionality in morphology”. *Workshop on Nominalizations*, UAM, Madrid.
- 2009 Roy, Isabelle. (2009). “Deadjectival Nominalization”. *Workshop on Nominalizations*. U. Pompeu Fabra, Barcelona.
- 2009 Roy, Isabelle. (2009). Discutante pour les *Journées d’Etude sur la Nominalisation II (JENOM2)*, UMR 8163 “Savoirs, Textes, Langage”, Université de Lille 3.
- 2007 Roy, Isabelle. (2007). “Functional projection and nominal predicates”. *The Syntax of Bare Nouns, Numbers, Classifiers, Determiners* Workshop, LLF, Université Paris 7.
- 2007 Roy, Isabelle. (2007). “Nominalizations and the structure of adjectives”. *Workshop Nominalizations across languages*, University of Stuttgart.
- 2007 Roy, Isabelle. (2007). “Nouns, Adjectives and Predicates”. Séminaire *Reference : Syntactic, Semantic and Philosophical Issues*, organisé par Ora Matushansky (CNRS-Paris 8) et Friederike Moltmann (IHPST), IHPST, Paris.
- 2006 Roy, Isabelle. (2006). “Prédications non-verbales”. *Journées d’Etudes Linguistiques*, Département de langue et linguistique française, Universitetet i Tromsø.
- 2006 Roy, Isabelle. (2006). “Les prédicats non-verbaux : typologie, syntaxe, sémantique”. *2^e Atelier Franco-Allemand de Linguistique*, Université de Stuttgart-SfB / Université de Paris8-CNRS.

PRÉSENTATIONS INVITÉES DANS DES SÉMINAIRES

- 2013 Roy, Isabelle. (2013). “Prédicats non-verbaux : Adjectifs et Noms”. *Stage doctoral SEDYL*, INALCO, Paris.
- 2013 Roy, Isabelle & Bridget Copley. (2013). “Le stade des 2-mots : les premières combinaisons à l’interface syntaxe / sémantique”. *Séminaire d’équipe Langage, Cognition et Développement*, UMR 7023.
- 2011 Roy, Isabelle. (2011). “Prédicats statifs : problèmes de syntaxe et d’acquisition”. *Séminaire de recherche LLING*, Université de Nantes.
- 2011 Roy, Isabelle. (2011). “Les verbes d’état et les constructions à infinitif racine en acquisition L1”. *Séminaire de l’équipe Langage, Cognition, Développement*, UMR 7023 SFL, Université Paris 8.

- 2010 Roy, Isabelle & Elena Soare. (2010). "Compositionality in Morphology : a Case Study of French Agent Nominals". *Seminario de Nominalizaciones*, UAM, Madrid.
- 2010 Roy, Isabelle & Elena Soare. (2010). "Naming participants in the event(uality)". *Seminar in Linguistics*, University of Stuttgart.
- 2010 Roy, Isabelle. (2010). "Prédicats statifs : problèmes de syntaxe et d'acquisition". *Séminaire UMR 7023 SFL*, Université Paris 8.
- 2010 Roy, Isabelle & Elena Soare. (2010). "L'enquêteur, le surveillant et le détenu : étude des noms déverbaux de participants à l'événement". *Séminaire de l'ATILF*, Université de Nancy.
- 2009 Roy, Isabelle. (2009). "La nominalisation déadjectivale et la structure de l'adjectif". *Séminaire de recherche*, dans le cadre des accords d'échange ERASMUS. Département de Linguistique, Université de Genève.
- 2009 Roy, Isabelle. (2009). "La nominalisation déadjectivale". *Séminaire de recherche Structure Argumentale et Structure Aspectuelle*, UMR 7023 Structure Formelle du Langage, Université de Paris 8.
- 2009 Roy, Isabelle. (2009). "Les noms déadjectivaux et la structure interne de l'adjectif". *Séminaire de Linguistique - UMR 8163 Savoirs, Textes, Langage*, Université de Lille 3.
- 2007 Roy, Isabelle. (2007). "Nominalizations and the structure of adjectives". *CASTL Colloquium series*, Universitetet i Tromsø.
- 2005 Roy, Isabelle. (2005). "Non verbal predications". *CASTL Colloquium series*, Universitetet i Tromsø.

AUTRES

- 2013 Roy, Isabelle, Bridget Copley, Saveria Colonna & Sudha Arunachalam. (2013). "The role of structural information in eliciting the 'agent' meaning with -er nominals : experimental evidence". University Bogaziçi, Istanbul.

PRÉSENTATIONS ACCEPTÉES MAIS NON DÉLIVRÉES

- 2009 Roy, Isabelle. (2009). "Predicates, copular sentences, categories and interpretation". *GENIUS : Genericity Conference*, Paris, ENS.
- 2006 Roy, Isabelle. (2006). "A synchronic perspective on the grammaticalization of nouns in expressions of spatial location in French". *Romance Linguistics Seminar 35*, University of Cambridge.

- 2005 Roy, Isabelle. (2005). “La prédication non-verbale et la distribution de ser/estar en espagnol”. 2^e *Journées Romanes*, Université de Toulouse-Le Mirail.
- 2005 Borer, Hagit & Isabelle Roy. (2005). “The Name of the Adjective”. *Mediterranean Syntax Meeting*, University of Aegean, Rhodes, Grèce.
- 2005 Borer, Hagit & Isabelle Roy. (2005). “The Name of the Adjective”. *5th Mediterranean Morphology Meeting*, CNRS, Fréjus.
- 2004 Roy, Isabelle. (2004). “Non-verbal predicates and the distribution of ser/estar in Spanish”. *Student Conference in Linguistics (SCIL)*, University of Texas, Arlington.

Projets et subventions de recherche

RESPONSABLE PRINCIPAL

- 2014-2018 Responsable Axe 3 équipe Langage, Cognition, Acquisition : “Traitement des structures complexes : de l’enfant vers l’adulte”. UMR 7023, Paris 8. (avec B. Copley)
- 2011-2013 Projet de mobilité européen Egide/ Procope DDD (France / Allemagne) “Nominalizations : Explorations and the syntax-semantics and the syntax-lexicon interfaces (NOMEXPL)”. Isabelle Roy, Université de Paris 8 et Artemis Alexiadou, Université de Stuttgart
- 2010-2012 Projet de mobilité européen Egide/ Aurora (France / Norvège) “Nominalizations : Explorations and the syntax-semantics and the syntax-lexicon interfaces (NOMEXPL)”. Isabelle Roy (puis Antonio Fábregas), CASTL, U. de Tromsø et Elena Soare, Université Paris 8)

PARTICIPATION À DES PROJETS

- 2014-2018 Groupe de recherche “Stativité : Typologie et Ontologie des Etats” - Projet financé par la Fédération Typologie et Universaux du Langage (TUL). Dir. E. Soare, L. Nash (UMR 7023)
- 2014-2018 Groupe de recherche “Langues et Grammaire en Ile-de-France” - Dir. A. Hertz, E. Soare (UMR 7023)
- 2011-2014 Projet bilatéral (ANR / DFG) NOMINAL . Dir. F. Moltmann (IHPST) / B. Schnieder.
- 2010-2013 Groupe de recherche “Structure Argumentale - Structure Aspectuelle” (SASA) - Projet financé par la Fédération Typologie et Universaux du Langage (TUL). Dir. E. Soare, F. Villoing, K. Ferret (UMR 7023) Project ANR Jeune Chercheur NOMAGE. Dir. R. Marìn, Univerisité de Lille 3.

Visites invitées

- 2012 Chercheur invité, U. Stuttgart : août 2012
2011 Chercheur invité U. Stuttgart : juillet 2011
2010 Chercheur invité. U. Stuttgart : juillet 2010
2009 Erasmus - échange enseignants, Université de Genève : avril 2009

Enseignement

COURS À L'UNIVERSITÉ DE PARIS 8

- 2015-2016 *Licence des Sciences du Langage* (L2) : Structures grammaticales du français
Licence des Sciences du Langage (L3) : Principes de syntaxe générative I
Licence des Sciences du Langage (L3) : Acquisition de la langue maternelle
Master des Sciences du Langage (M1) : Diversité des approches en Sc. du Langage
Master des Sciences du Langage (M2) : Théorie de la grammaire
Master des Sciences du Langage (M1) : Typologie linguistique
Doctorat : Séminaire des doctorants
- 2014-2015 *Licence des Sciences du Langage* (L2) : Structures grammaticales du français
Licence des Sciences du Langage (L3) : Principes de syntaxe générative II
Licence des Sciences du Langage (L3) : Introduction à l'acquisition
Doctorat : Séminaire des doctorants
- 2013-2014 *Licence des Sciences du Langage* (L2) : Introduction à l'acquisition
Licence des Sciences du Langage (L2) : Principes de syntaxe générative I
Licence des Sciences du Langage : Linguistique de terrain
Doctorat : Séminaire des doctorants
- 2012-2013 *Licence des Sciences du Langage* (L2) : Introduction à l'acquisition
Licence des Sciences du Langage (L2) : Principes de syntaxe générative I
Doctorat : Séminaire des doctorants
- 2011-2012 *Licence des Sciences du Langage* (L2) : Introduction à l'acquisition
Licence des Sciences du Langage (L2) : Principes de syntaxe générative I
Doctorat : Séminaire des doctorants
- 2010-2011 *Licence des Sciences du Langage* (L2) : Introduction à l'acquisition
Licence des Sciences du Langage (L3) : Principes de syntaxe générative II
- 2010 *Licence des Sciences du Langage* (L2) : Introduction à l'acquisition
Licence des Sciences du Langage (L3) : Principes de syntaxe générative II

COURS À UNIVERSITY OF SOUTHERN CALIFORNIA (USC)

- 2002-2003 *Licence de Français (BA in French)* : Français niveau intermédiaire (FR150)
- 2001-2002 *Licence de Français (BA in French)* : Français niveau intermédiaire (FR150)
Licence de Français (BA in French) : Français niveau débutant (FR120)
- 2000-2001 *Licence de Français (BA in French)* : Français niveau intermédiaire (FR150)
Licence de Français (BA in French) : Français niveau débutant (FR120)

Jurys et comités

JURY DE SOUTENANCE DE THÈSE

Jiyoung Choi (Université de Nantes) sept. 2015 : *(Degree) Inchoative States in Korean : Evidence from Child Language.*

Maria Angeles Cano (Universidad de Madrid) nov. 2013 : *Las derivaciones en -nte y -dor : estructura argumental y complejidad sintáctica en una morfología neoconstruccionista.*

JURY DE MASTER

- Gansent Petit-Frère (Paris 8), 2013 : *La réflexivité en créole haïtien*
- Abdoulaye Alassane Coulibaly (Paris 8), 2013 : *La syntagme nominal en wolof*
- Nargues Abdel-Malek (Paris 8), 2013 : *Les noms nus en anglais, en français et en arabe. Approche comparative*
- Benjamin Storme (ENS, Paris 8), 2012 : *Quirky Pronoun ça/c' in French Predicational Copular Sentences*
- Xiang Wei (ENS, Paris 8), 2012 : *On Direction of Dou-Quantification*
- Lisa Roche (ENS, Paris 8), 2011 : *Comprendre le futur périphrastique*
- Tatiana Eremeeva (Paris 8), 2011 : *Nominalisations statives en Russe*
- Paraskevi Evangelidou (ENS, Paris 8), 2011 : *L'expression de la possession dans le grec standard moderne : une étude comparative*
- Nargues Abdel-Malek (Paris 8), 2011 : *Etude comparée de la nominalisation, en français et en arabe*

COMITÉS DE SUIVI DE THÈSE

- Natasha Knezevic (LLING, Nantes) en cours : *Acquisition, Traitement et Syntaxe Comparée des Cardinaux. Etude Comparative Serbe, Français, et Anglais*
- Oana Lungu (LLING, Nantes), 2012 : *Le temps en contexte subordonné de la perspective de l'acquisition du français langue maternelle*

DIRECTION DE MASTER MEEF

Claire Villacampa (ESPE), 2014-2015 : La morphologie du radical des verbes.
Delphine Journaud (ESPE), 2014-2015 : L'apprentissage des prépositions du français standard à l'école primaire.
Gwennie Bernier (ESPE), 2014-2015 : L'accord en nombre de noms comptables.

Responsabilités administratives et professionnelles

SERVICE

- 2014-2018 Membre du conseil de Laboratoire de l'UMR 7023.
2014-2018 Membre du conseil de l'UFR Sciences du Langage, U. Paris 8.
2014-présent Membre suppléante du conseil de l'Ecole Doctorale "Cognition, Language, Interaction", U. Paris 8.
- 2015-2016 Co-responsable du Master SDL Parcours LaDILLS (P8-SDL)
2014-présent Co-responsable du jury de Master (P8-SDL)
2014-présent Co-responsable du cursus Master MEEF
- 2013-présent Directrice de la collection Sciences du Langage des PUV (avec Elena Soare)
2013-présent Membre du comité éditorial des Presses Universitaires de Vincennes (PUV).
- 2014 Présidente de la commission A d'évaluation des BQR
2013 Présidente de la commission A d'évaluation des BQR
2012 Membre de la commission A d'évaluation des BQR

RELECTURES ET ÉVALUATIONS

pour revues :

Lingua

Journal of Linguistics

Travaux de Linguistique

Applied Psycholinguistics

Finno-Ugric Languages and Linguistics

Borealis

pour conférences :

WCCFL

GLOW

JENOM

pour appel à projets :

Israel Science Foundation

CONFÉRENCES

- 2015 Présidente du comité d'organisation de GLOW 2015, 15-18 Avril 2015, Paris.
- 2012 Présidente du comité d'organisation et du comité scientifique, 2^{es} Rencontres d'Automne de Linguistique Formelle : Langues, Langage et Cognition (RALFe 2012), 29-30 novembre 2012, Paris VIII.
- 2011 Co-organisatrice "Structuring the Argument/Structurer l'argument : Atelier pluridisciplinaire sur la représentation mentale de la structure argumentale du verbe". A multidisciplinary workshop on the mental representation of verbal argument structure. Paris, sept 2011. avec A. Bachrach et L. Stockall
- 2012 Membre du comité scientifique "Workshop on Aspect and Argument Structure of Adjectives and Participles, (WAASAP!)" 22-23 juin 2012 University of Greenwich, London (UK). Organisateur : María J. Arche, Antonio Fábregas, Rafael Marín.
- 2010 Présidente du comité d'organisation de la Conférence de Syntaxe et Sémantique à Paris (CSSP), 21-23 septembre 2011, UP8
- 2010 Présidente du comité d'organisation et du comité scientifique, 1^{ères} Rencontres d'Automne de Linguistique Formelle : Langues, Langage et Cognition (RALFe 2010), Paris 14-16 octobre 2010, Paris VIII
- 2010 Co-organisatrice Journées d'Etude sur les Nominalisations (JENOM) 3, UMR7023, Pouchet 17,18 juin 2010
- 2010 Co-organisatrice Journée Nominalisations - Paris / Tromsø(projet Aurora - Egide), 15 mars 2010.
- 2010 Membre du comité scientifique et d'organisation de Temporalité : typologie et acquisition (temptypac), 11-12 mars 2010, UMR 7023, UP8.

Formations diverses

- formation Intermédiaire LSF (30 heures), CNRS (fev. 2012)
- formation E-prime (2x 5 heures) (mars 2012)
- formation CLAN (Christophe Paris) (nov 2011)
- formation statistiques (Philippe Bonnet) (2011)
- formation Initiation LSF (30 heures), CNRS (7-18 fev 2011)

Langues

- Locutrice native du français
Bilingue anglais (non native)

Connaissances avancées de l'espagnol, du norvégien et du persan

J'ai étudié le persan (1998-99, INALCO), basque (1996-97, U. Paris8), nahuatl (1994-95, U. Paris8)

J'ai travaillé dans mes recherches sur le français, l'espagnol, le russe, l'anglais, l'irlandais moderne, le créole haïtien et l'hébreu.