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Objet and substance metaphors: how 'things' help us think¹

Consciousness is a limited-capacity system, and to survive in the world people must be able to process a great deal of information outside of awareness.

Timothy Wilson, *Strangers to Ourselves* (2002: 8)

Introduction

Object and substance metaphors (Lakoff & Johnson 1980, 1999) play a crucial role in language and cognition. The process is relatively simple but largely unconscious: non-physical entities (ideas, events) are turned into "things" and treated as if they were discrete material objects or physical substances, as in "*We have found new pieces of evidence*", "*She is running out of patience*" or "*I have a crisis on my hands*." But how prevalent is this process? What functions does it serve? What are its main lexical, grammatical and gestural manifestations? We will be looking at data taken from the language of news media, literary discourse and other sources. The perspective adopted here is multimodal, with illustrations borrowed from written texts and filmed interviews. Spatial cognition, it will be shown, plays a major role in the way we "handle abstractions."

1. Why matter matters

Writing in the opinion section of *The Guardian*,² the chair of the *British Activity Holiday Association* claims that, despite potential hazards, "the benefits" of school trips "*far outweigh risks.*" Such trips, he argues, allow children to "*gain experience*" and "*acquire knowledge,*" thus "contributing significantly to their *personal development.*" Mr Hudson's statement makes sense because we are all accustomed to treating *experience*, *knowledge* and *skills* as IMAGINARY OBJECTS OR SUBSTANCES³ – precious THINGS that we may acquire and eventually possess.⁴ Thus the cognitive process of learning is metaphorically described in sensorimotor terms: GETTING, OBTAINING SOMETHING VALUABLE.

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² Martin Hudson, "Benefits far outweigh risks", *The Guardian*, Tuesday 9 September 2008.

³ SMALL CAPITALS denote cognitive mechanisms: the construal operations, conceptual transfers and cognitive models associated with selected terms and notions. The (mental) imagery and (fictive) scenes that these terms activate are largely metaphoric. E.g. construing the process of learning as OBTAINING a valuable OBJECT. Italicized expressions refer to actual language use: phrases and expressions that illustrate a given cognitive mechanism. E.g. "*gaining experience*"; "*acquiring knowledge*."

⁴ E.g. "*I have some experience in this matter*"; "*She has the knowledge*"; "*You have the required skills*."



Figure 1 – *Acquiring skills, knowledge; gaining experience*
Cognitive act of learning metaphorically conceived
as physical act of GETTING or OBTAINING

The phrase *personal development* is equally metaphorical: improving oneself is spatially construed as a process of EXPANSION along a horizontal, vertical or radial axis. Self-improvement is therefore a kind of psychological GROWTH, i.e. a gain in size of some kind. The healthy, nourishing SUBSTANCE of knowledge and experience feeds a person’s character, just as healthy nutritious food feeds a person’s body and contributes to growth and expansion.

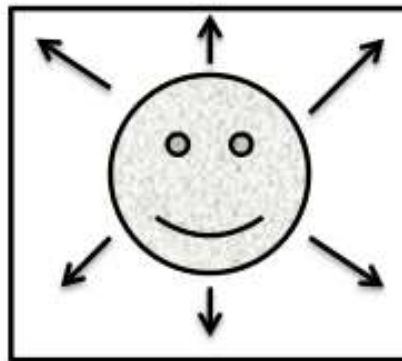


Figure 2 – *Personal development*
Psychological improvement as GROWTH or EXPANSION

Outweigh in “*benefits far outweigh risks*” also deserves some attention. This verb literally means “to be heavier, or greater in weight than...” but typically applies to weightless abstractions. Weighing impalpable “things” that are not things in a strict sense, and have no “weight” to speak of, should normally be regarded as ridiculous nonsense. Yet, this kind of nonsense is quite common in Modern English usage, as a rapid search through the Leipzig Corpora Collection confirms.⁵ Indeed, *outweigh* is hardly ever used to compare material objects or substances, and characteristically occurs to contrast abstract notions: *benefits outweighing costs (risks); advantages outweighing disadvantages (drawbacks); pros outweighing cons; positives outweighing negatives*, etc.

⁵ English (South Africa) - Web text corpus based on material from 2014. Total number of words: 1,725,131,621. Total number of phrases: 88,384,819. Word types: 7,709,815.

URL: <http://corpora.uni-leipzig.de/en>

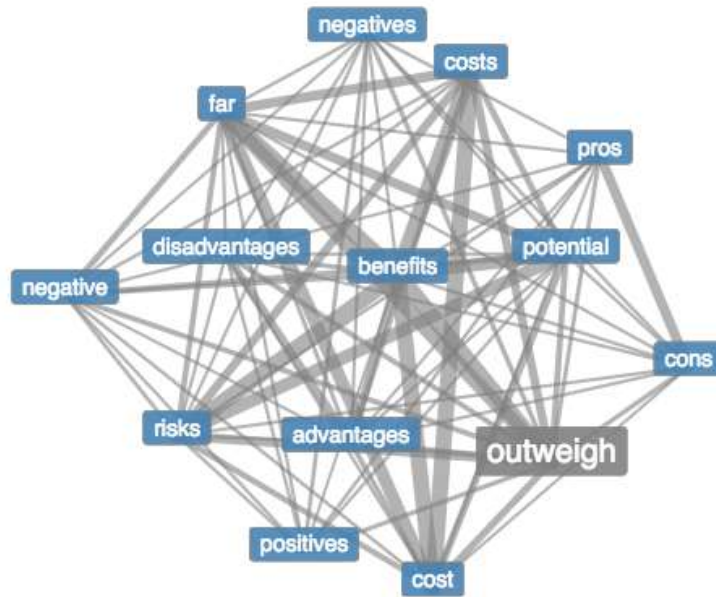


Figure 3 – Most frequent collocates of the verb *outweigh*
Leipzig Corpora Collection, S. African English Web Corpus (2014)

For the comparison to be workable, for the apparent nonsense to make perfect sense, two cognitive mechanisms must be activated. First, the conversion of states, processes or phenomena into OBJECTS OF CONCEPTION must take place. Such “objects” can neither be seen nor touched; yet they share the central properties of material objects. This makes it possible for speakers to assess their mass, volume, size or weight, depending on the context.⁶ Once the conversion - or reification⁷ - has taken place, the imaginary OBJECT or SUBSTANCE is metaphorically placed on a pair of scales for weight-measurement. This is pure fiction, of course, but the fictive “weighing scene” functions like a cultural narrative that has become lexically and grammatically entrenched in the language: *weighing the facts; weighing options; weighing one plan against another; weighing the pros and cons; disadvantages outweighing advantages*, etc.⁸

⁶ In everyday English, “weight” refers to the heaviness of an object as measured on a scale. The verb “weigh” is routinely used with material (*I weighed the sugar*) and abstract substances (*I weighed the advantages and the disadvantages or the resolution; Let’s weigh the facts!*). What the two uses have in common - concrete and abstract, quantitative and qualitative- is the cognitive act of evaluating, of considering something very carefully and coming up with a final assessment.

⁷ To *reify*, from Latin *res* “thing,” means to turn an abstract idea or concept, possibly a fact or event, into a concrete entity, as if it had real material existence. The noun *reification* refers to this process.

⁸ Individual word meanings, contextual factors, and pragmatic inferences eventually determine whether having more or less weight than something else is good or not.

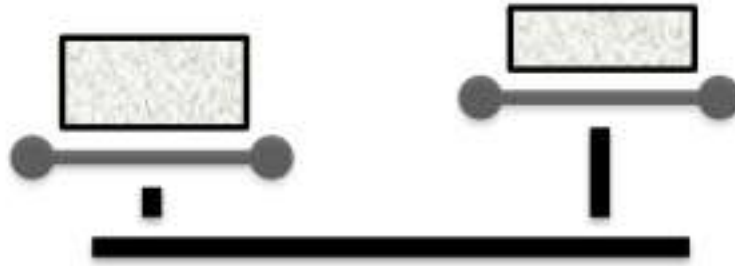


Figure 4 – Comparing the relative importance or value of *THINGS*
WEIGHING SOMETHING against *SOMETHING* else

As shown in the figure above, entities are measured up against each other. What Mark Johnson (1987) calls the *BALANCE schema* is applied to perform the comparative analysis of the two entities. This “schema” is a basic conceptual structure, inherited from our experience of the physical world. We think of a “balanced” state as one of *EQUILIBRIUM*, in which relative *STABILITY* is achieved between *FORCES* and *COUNTERFORCES*. This physical configuration is metaphorically transferred to other domains, in which a sense of harmony and proportion is sought, like aesthetics (e.g. a *balanced use of colour*, a *balanced approach to dialogue and narrative*), human psychology (e.g. a *balanced personality*; an *imbalanced relationship*), and social action (e.g. a *balanced response*).⁹

Our daily bodily experience of physical objects thus plays a crucial role in shaping our cognitive and linguistic systems. We are constantly playing around – mentally and verbally – with a huge collection of *THINGS*, which may be concrete or abstract, real or imaginary: the things we conceive (ideas, notions), the things we do (actions), the things we feel (emotions), the things we detect (perceptions), the things we say (statements), etc. There is no other way we can handle, conceive and express our experience of the world. We need to form, relate and mentally manipulate large collections of *OBJECTS*, which may be *OBJECTS OF EXPERIENCE* (the things that happen to us, the things that we feel, detect and register) or *OBJECTS OF CONCEPTION* (the things we identify; the things we have in mind; the things we think about). All these *MENTAL OBJECTS* eventually become *OBJECTS OF DISCOURSE* (the things we talk about), once they have been named and described in speech. Thus, in a lecture recently given by David Cameron for Transparency International UK,¹⁰ the word “*thing*” is used over 20 times:

- to refer to people’s most basic needs, like “*bread, freedom and social justice*”;¹¹

⁹ “The experience of physical equilibrium within our bodies gives rise to structures for ordering our experience of so-called psychological realities. The ‘mental’ is understood and experienced in terms of the ‘physical’. (Johnson, 1987: 88).

¹⁰ David Cameron was Prime Minister of the United Kingdom from 2010 to 2016. On Wednesday, 13 December 2017, he was invited to give a lecture for *Transparency International UK*, an organization fighting against corruption in business and politics. The full transcript of the speech contains 4650 words.

¹¹ “*Because the things people wanted – bread, freedom and social justice – were stolen and stifled by their supposed protectors.*” Notice the mix of physical and non-physical “*things*.” All are treated alike, because all are regularly “*stolen and stifled*” by corrupt leaders.

- to name “*the dangers facing the world*” like “*isolationism, protectionism, unilateralism,*” “*lobbying and party funding*”;¹²
- to describe attitudes, like “*being too open and transparent*”;¹³
- to refer to actions, as in “*one of the first things I did*”;¹⁴
- to sum up a collection of items and recapitulate ideas ;¹⁵
- to identify criteria and spell out objectives at a general level, as in “*the things we need to achieve,*” “*the things we can do now,*” “*something to aim at and judge things by,*” “*something worth fighting for*”;
- to refer to events, like a FIFA meeting in Zurich to decide on a host country for the 2018 World Cup.¹⁶

Conceptual reification – “our capacity for construing (ideas and) events as abstract objects” (Langacker, 2008: 95) – is an indispensable component of human reasoning.¹⁷ David Cameron would be unable to frame the issue of worldwide corruption, to identify its myriad forms, to locate its multiple manifestations, to measure its disastrous impact on society, without forming MENTAL OBJECTS and MANIPULATING them through speech. Indeed, it is speech that provides the semiotic material and the symbolic space where higher forms of conceptualization and argumentation may take place. It is speech that orchestrates reasoning and meaning making, through the interplay of syntax, semantics and pragmatics, as the utterance act unfolds.

One of the major claims made by cognitive linguists is that embodied experience, concept-formation and language structure are interdependent (Lakoff 1987, Gibbs 1996, Heine 1997, Lakoff & Johnson 1980, 1999). Conceptual reification provides a perfect illustration of this principle. Our sensorimotor interaction with CONCRETE PHYSICAL OBJECTS in the real world (embodied experience) provides a firm empirical basis for the creation of ABSTRACT MENTAL OBJECTS (concept formation), which we typically express as nouns (language structure). Nouns, also known as SUBSTANTIVES, are “symbolic structures” that fundamentally “designate things” (Langacker 1991: 20). The “conceptual archetype” behind the noun category is that of a “thing” (Langacker 2000).¹⁸

¹² “Questions are always rightly asked about – among other things – *lobbying and party funding*”; “the things the wave of anti-globalisation is in danger of ushering in – *isolationism, protectionism, unilateralism – endanger our countries and our world.*”

¹³ “Sometimes there is such a thing as *being too open and transparent.*”

¹⁴ “When I came to office one of the first things I did was release vast amounts of data.”

¹⁵ “The Bribery Act, Registers of beneficial ownership, battles over sharing tax information... all of these things can be made as part of a pro-business case.”

¹⁶ “President Putin actually boycotted the whole thing because he said it was riddled with corruption. He was right – it was. And – let me put it like this – I am sure he wasn’t completely surprised when Russia actually won the bid.”

¹⁷ (SOME)THING, STUFF and MATTER are common lexicalizations of “abstract objects,” which are clearly based on physical imagery. The word *stuff* initially meant “cloth,” “fabric,” or “raw material.” In modern usage, it concretely refers to “personal belongings” (e.g. “*I have packed all my stuff for the trip*”) or metaphorically to a “subject matter or skill” (e.g. “*She has some important stuff to do. I know my stuff*”). *Matter* fundamentally refers to physical substance. Yet, it has developed more abstract senses: “questions, issues, topics, ideas, tasks” (e.g. “*This is a very sensitive matter*”; “*She tried to avoid the [subject]matter*”; “*I have some urgent matter to attend to*”).

¹⁸ “I claim that every noun designates a product of conceptual reification, which is intrinsic to the conception of physical objects.” (Langacker 2000: 172).

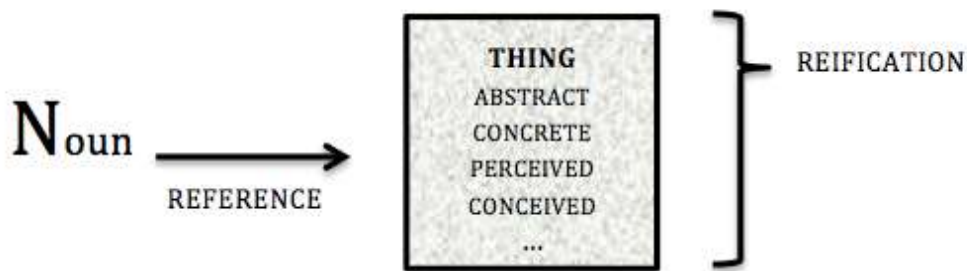


Figure 5 – Nouns: reification and reference

In connected speech, we essentially use nouns to refer¹⁹ to THINGS, concrete or abstract, real or imaginary. Nouns designate OBJECTS OF CONCEPTION OR EXPERIENCE, i.e. THINGS that have been selected for special attention in the current discourse space. In “*He had only to open his eyes (...) Wherever he looked at the houses, at the railings, beauty sprang instantly (...) beauty was everywhere*” the nouns “houses” and “railings” refer to salient objects of perception in the character’s experience of Regent’s Park.²⁰ These are physical entities that catch the attention of Septimus Warren Smith, a mentally disturbed war veteran who goes out every day for long, aimless walks across Central London. “Beauty” points to a more abstract entity, which is made even more striking and meaningful than material objects through repetition. The narrator needs all three nouns – *houses*, *railings*, *beauty* – to establish ELEMENTS OF MENTAL AND PERCEPTUAL EXPERIENCE in the narrative space. Nouns, it turns out, are indispensable linguistic tools for setting up a MENTAL CONNECTION between the sentences in the story (NARRATIVE SPACE) and the THINGS (or ELEMENTS) that the speaker has in mind (CONCEPTUAL SPACE).

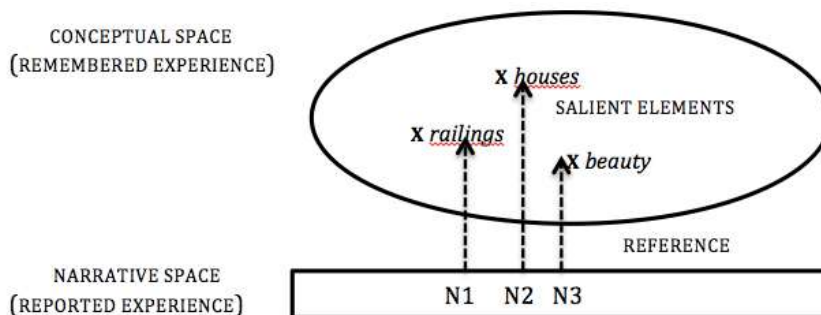


Figure 6 – Nouns in NARRATIVE SPACE refer to salient elements in CONCEPTUAL SPACE

Our experience of material substances and physical objects also shapes the way in which we construe the meaning of words. Ordinary words – technically known as lexemes or content words²¹ – are said to “carry” or “convey” the ideas that we

¹⁹ The typical “propositional act” performed by nouns is “reference” and their basic “semantic class” is that of “objects” (Croft, 2003: 184-85).

²⁰ V. Woolf, *Mrs Dalloway* (2013 [1925] : 63-64).

²¹ It is interesting to note that lexical (as opposed to grammatical) units are commonly called *content words* (as opposed to *function words*). This proves that our common conception of words (and meanings) is based on a container and substance metaphor.

“put into them”.²² They accordingly CONTAIN some kind of abstract SEMANTIC SUBSTANCE (e.g. “*What is valuable about him cannot be put into words*”).²³ If no such SUBSTANCE fills them, words are thought of as “empty” or “vacuous.”

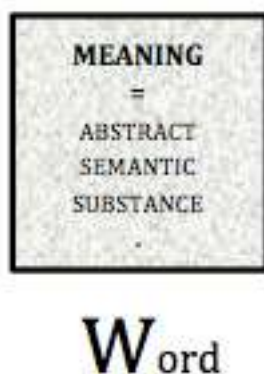


Figure 7 – Words as CONTAINERS & CARRIERS of meaning
Meaning cognized (understood) as ABSTRACT SUBSTANCE

Conceptualizing the non-physical in terms of the physical, turning actions, states, events, notions, properties, feelings, etc. into OBJECTS and SUBSTANCES allows us to deconstruct experience and identify its components. Carving out and assembling the building blocks of reality and experience ultimately enables to make sense of the world. As early as 1980, in *Metaphors We Live By*, George Lakoff and Mark Johnson stressed the centrality of “entity and substance metaphors” in human cognition.²⁴ They chose to call them “ontological metaphors” because such metaphors redraw the boundaries of conceived reality: they redefine the nature of being, and ultimately reshape our understanding of the world around us. Aspects of experience that were ontologically²⁵ categorized as “events, activities, emotions, ideas, etc.,” are reprocessed and recast as THINGS: they become “entities and substances” (25).

²² See Lakoff & Johnson (1980 : 11-12) for a discussion of the “conduit metaphor”: LINGUISTIC EXPRESSIONS ARE CONTAINERS FOR MEANING and COMMUNICATION IS SENDING.

²³ E.M. Forster, *Aspects of the Novel* (2002 [1927] : 99).

²⁴ Surprisingly, Lakoff and Johnson devoted only a brief chapter to the description of “ontological metaphors” (Chapter 6, 25-32). In the opening paragraph, they remark: “Understanding our experiences in terms of objects and substances allows us to pick out parts of our experience and treat them as discrete entities or substances of a uniform kind. Once we can identify our experiences as entities or substances, we can refer to them, categorize them, group them, and quantify them- and by this means, reason about them.” (Lakoff & Johnson, 1980: 25)

²⁵ Ontology was initially established as a branch a metaphysics dealing with the nature of being and reality, i.e. theories of what is and is not, what kinds of substance or entities reality is made up of.

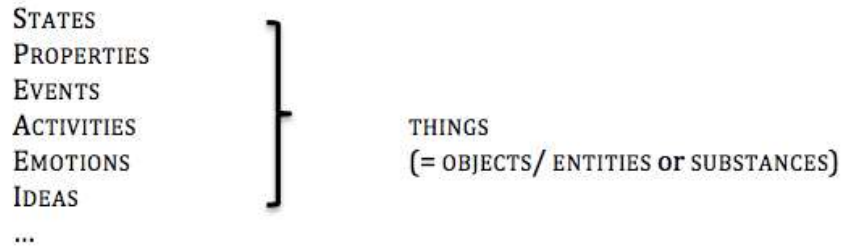


Figure 8 – How “ontological metaphors” re-categorize elements of reality

“Viewing a nonphysical thing as an entity or substance” makes it possible for the speaker to perform basic cognitive operations that are essential “for dealing rationally with our experiences” (Lakoff & Johnson, 1980: 26-27). The analogy created between the physical and the non-physical, the concrete and the abstract, allows reference and quantification to be carried out. Illustrations given by the authors include the following:

- Quantification: “(She showed) a lot of patience,” “There is so much hatred in the world,” “How much window washing did you do?”;
- Reference to notions, processes or situations: “the honor of our country is at stake in this war,” “We’re out of trouble now”;
- Identification of dimensions, causes and objectives: “(This is) the ugly side of his personality”; “My fear of insects is driving my wife crazy”; “We are working towards peace”; “He went to New York to seek fame and fortune.”

Authentic examples may be added that reflect different discourse types, literary and non-literary:

| Example 1 (Fiction) | Discussion |
|---|---|
| <p><i>So with the lamps all put out, <u>a downpouring of immense darkness began. Nothing, it seemed, could survive the flood, the profusion of darkness which came into bedrooms.</u></i> Virginia Woolf, <i>To the Lighthouse</i> ([1927] 1977: 117)</p> | <p>“Darkness” is treated as a LIQUID SUBSTANCE that “pours” into the empty house. Conceptual reification makes quantification possible. The SIZE and AMOUNT of <i>darkness</i> can be measured, using adjectives and nouns that typically apply to concrete entities: “immense” (size); “profusion” (amount). Causality is also expressed: the absence of light leads to the creation a THING called “darkness.” This example shows that special poetic effects may be achieved through conceptual reification.</p> |
| Example 2 (News Media) | Discussion |
| <p><i>“Leaving the bloc will hit the UK economy hard.” It “will <u>reduce national income by 3.8 to 7.5 per cent</u>” and impose “<u>steep cuts to public spending</u>.” This sombre prediction is based on a “rigorous report by the Treasury” that</i></p> | <p>This article looks at “<i>the dire economic consequences</i>” of Britain leaving the European Union (known as Brexit). The title itself is based on an ontological metaphor: “UK standards of living” are treated as a FRAGILE</p> |

| | |
|---|---|
| <p><i>“has stood the test of time”. Only some <u>“some aspects of the analysis have fared badly in the year since publication.”</u></i></p> <p>“Brexit will damage UK standards of living, say economists” - <i>The Financial Times</i> (16 April 2017)</p> | <p>OBJECT that may be easily “<i>damaged</i>” by Brexit. PARTS of the object are likely to be lost or undergo some kind of damage. The process of “<i>leaving the bloc</i>” (= X) is construed as a THING having a PHYSICAL IMPACT on “<i>the economy</i>” (= Y). The expression of causality is rooted in conceptual reification: OBJECT X comes into violent contact with OBJECT Y, with adverse effects (X “<i>hits</i>” Y and causes harm). “<i>National income</i>” and “<i>public spending</i>” are both construed as SUBSTANCES that may be “<i>cut</i>” or “<i>reduced</i>” (quantification). Interestingly, the analysis presented in the report is cognized as a solid OBJECT which is made up of separate PARTS or “<i>aspects</i>”, some good, some bad. These may be individually referred to.</p> |
|---|---|

| Example 3 (Political discourse) | Discussion |
|--|---|
| <p><i>I feel pride and gratitude for <u>this wonderful campaign that we built together</u>, this vast, diverse, creative, unruly, energized campaign. (...) Our constitutional democracy enshrines <u>the peaceful transfer of power</u> and we don't just respect that, we cherish it. (...) So now, our responsibility as citizens is to keep doing our part to <u>build that better, stronger, fairer America we seek</u>. And I know you will. (...) To Barack and Michelle Obama, our <u>country owes you an enormous debt of gratitude</u>. (...) Finally, I am so grateful for our country and for <u>all it has given to me</u>. I count my blessings every single day that I am an American.</i></p> <p>Hillary Clinton's Concession Speech, after losing the American Presidential Election against Donald Trump (09 November 2016).</p> | <p>Technically, an election campaign is an activity that supporters engage in, not a physical OBJECT. Yet, it is here conceptualized as a CONSTRUCTION; SOMETHING “<i>that (campaigners) built together.</i>” Another CONSTRUCTION metaphor is used to conceptualize the making of “<i>a better, stronger, fairer America.</i>” Politically, a nation is a fairly evasive concept that is hard to define. In H. Clinton's efficient speech, it just becomes SOMETHING that responsible citizens “<i>build</i>”.</p> <p>“<i>Power</i>” is a complex abstraction. Reification rhymes again with simplification: power becomes a precious OBJECT that the outgoing and incoming presidents exchange through “<i>peaceful transfer.</i>” Also, education, opportunities and a rich life experience are construed as precious THINGS that America has “<i>given</i>” to Ms Clinton.</p> <p>“<i>Gratitude</i>” – which literally denotes a feeling – is metaphorically conceptualized as a precious substance. This allows two things: quantification (a high amount is suggested) and indebtedness (“<i>an enormous debt of gratitude</i>” is acknowledged).</p> |

| Example 4 (New Media) | Discussion |
|---|---|
| <p>Mr Trump was carried to office on <u>a tide of popular rage</u> (...) Anger has <u>sown</u> hatred in America (...) The sense that <u>old certainties are crumbling</u> has rocked America's allies.</p> <p>Mr Trump's victory has <u>demolished a consensus</u>. The question now is <u>what takes its place</u>.</p> <p>"The Trump Era" - <i>The Economist</i> (12 November 2016).</p> | <p>"Rage" is construed as a LIQUID SUBSTANCE. The metaphoric phrasal quantifier "a tide of" expresses both high amount and destructive force.</p> <p>"Anger" is materialized as a harmful seed, i.e. the propagative part of a poisonous plant ("hatred"). Reference is made to feelings as living organisms and a causal link is established ("anger" eventually develops into "hatred").</p> <p>The end of "old certainties" is an abstraction that is metaphorically construed as "crumbling": concrete imagery is applied that evokes a SOLID OBJECT breaking into FRAGMENTS. The same imagery is used to express the end of the national "consensus" in terms of some STABLE EDIFICE being "demolished". What will replace the former "consensus" is figured as an ABSTRACT OBJECT that will "take its place."</p> |

As this small collection of examples attests, OBJECT and SUBSTANCE metaphors are essential cognitive tools that enable us to comprehend and report the complexities of experience. Still, lexical and grammatical markers are not alone. Gesture also makes an essential contribution to conceptual reification by allowing speakers to HANDLE abstractions metaphorically. Visible forms of "conceptual action" (Streeck 2009: 151) may be observed, in which hand movements symbolically enact the speaker's cognitive activity, making the invisible visible, and revealing "inner mental processes" (McNeill 1992: 109).

2. Manipulating abstract objects

"Speech is the best show man puts on" (Whorf 1956: 249). Speakers are actors (Goffman 1983); their utterances are performances (Schechner 2003). Anything they say is spectacular²⁶ by nature: their utterances are "dramatic realizations" of meanings and "social relationships" (Gumperz 1963), public "displays" of feelings, which they present on the social stage in a continuous succession of "scenes" and "little parades" (Goffman 1959).

In both mundane and rhetorical uses of language, word and gesture²⁷ combine²⁸ to produce visible forms of "symbolic action," in the here and now of the

²⁶ From Lat. *spectare* "to watch", from *specere* "to look at."

²⁷ Within the framework of gesture studies, the word "gesture" refers to all the hand and head movements, the facial expressions and the postural shifts that spontaneously accompany speech events. It is important to note that the gestures "made" or "performed" by speakers do not constitute a separate body idiom. "It is a profound error to think of gesture as a code or 'body language', separate from spoken language." (McNeill 2005: 4). The gestures made by speakers are an integral part of the "choreography of speech" (Lapaire 2016).

utterance act (Kendon 2004). The shape, amount and conspicuousness of movements depend on such factors as culture, personal character, social context and discourse type. But whatever these may be, some kind of gesticulation is bound to occur that is perceptually marked and formally patterned (Birdwhistell 1970, Calbris 2011), with clear onsets and offsets:



Figure 9 – “Here we have A VERY BROAD SPECTRUM OF TALENT”

The two screenshots are taken from a short promotional video produced by *The University of Southern California (USC) International Dance Center*, in Los Angeles.²⁹ William Forsythe, a famous American choreographer, is asked about the students who attend his improvisation workshops. He is seated in front of the camera, and uses the “gesture space”³⁰ as “conceptual space”³¹ in order to explain what young artists do at the Gloria Kaufman School of Dance. This particular gesture sequence lasts less than 3 seconds. Forsythe’s hands are briefly joined together, palms facing down, then pushed sideways. They run along THE INVISIBLE SURFACE OF AN INVISIBLE MENTAL OBJECT: the “*talent*” present at USC School of Dance. This is a very abstract concept, an “image of thought,” yet it briefly “takes shape” (Arnheim 1969: 116) through gestural action. The bilateral hand movement is a brisk, schematic enactment of the notions of size and diversity that is verbally expressed in the phrase: “*a very broad spectrum of talent.*” Forsythe’s gesture “gives haptic form” to conceptual reification. He creates and manipulates an ABSTRACT OBJECT OF CONCEPTION that feels real and concrete, yet remains virtual and invisible. This is as a very clever “semiotic trick” (Lapaire 2016) that speakers usually perform out of awareness.

In *Hand and Mind* (1992), David McNeill devotes an insightful chapter to “gestures of the abstract” (145-179). He describes how “images of the abstract”

²⁸ Co-expressiveness is a key feature of co-speech gesticulation: “Gestures and speech are most appropriately regarded as two sides of a single underlying verbal-gestural process of constructing and presenting meanings.”(McNeill 1992: 24)

²⁹ USC Gloria Kaufman School of Dance. William Forsythe, artistic advisor and dance instructor (02 :12).

URL : <https://kaufman.usc.edu/faculty/william-forsythe-profile/>

³⁰ “The gesture space can be visualized as a shallow disk in front of the speaker, the bottom half flattened when the speaker is seated. Adults usually perform gestures within this limited space.” (McNeill, 1992: 86)

³¹ “Conceptual space encompasses all of our thought and knowledge.” (Wilcox 2003: 122)

are “generated” manually, allowing “concepts to take shape” (163).³² This can only happen because “the gesture space is endowed with abstract meaning” (171), and because MANUAL ACTIVITY is metaphorically understood as coding MENTAL ACTIVITY. McNeill shows that speakers use a variety of kinetic strategies. For example, speakers may “create a bounded supportable object” and “present it to the listener” (148).



Figure 10 – Creating an “image of the abstract”
Presenting “a bounded supportable object” (McNeill 1992: 148)

Or they may form a cup with one hand, holding “a substance without form” (152). The INVISIBLE SUBSTANCE stands for some concept, whose abstract meaning has been reified (i.e. turned into a THING).



Figure 11 – The “cup of meaning” (McNeill 1992: 152)

Speakers may also use “abstract pointing” to refer to “entities,” or perform movements that code dynamic processes like change, transition, inclusion,

³² “The abstractedness of an idea is no barrier to its receiving a concrete reality in gesture form. Movements of the hand are perfectly capable of expressing abstractions.” (McNeill, 199: 163)

exclusion, addition, connection, and limitation (McNeill 1992, 2005, Calbris 2011), all of which play a crucial role in reasoning and argumentation.

A recent BBC interview with Ashley Riches³³ confirms the validity of McNeill's claims and shows how speakers spontaneously use "gestures of the abstract" in argumentative or explanatory discourse. The young British baritone tries to define the role played by (vocal) *technique* in personal *interpretation*. His facial expressions and coordinated hand movements are essential in articulating his thoughts and getting his point across. The function of these moves is both cognitive and communicative.



Figure 12 – ““There has to be A REALLY SOLID TECHNIQUE that your body understands and always resorts to.”

Ashley Riches' spontaneously engages in "gestural conceptualization" (Streeck 2009: 162), with his RH³⁴ in the open hand supine position (palm up) and his LH in the open hand prone (vertical palm) shape. As is obvious from the picture, his raised RH is the dominant hand: it holds and displays an ABSTRACT OBJET ("*[vocal] technique*"), while referring to its function as a "solid" support for the art of personal interpretation. Ashley Riches thus uses his own body to perform "conceptual acts." His ability to "think by hand" – or "man-facture meanings"³⁵ – may be viewed as a form of "gesturecraft" (Streeck 2009: 151-52).

It is important to note that the conceptual reification of *technique* operates both at the verbal and gestural levels. Strictly speaking, *technique* refers to a skill or ability, not a THING. Yet, it is conceived as a SOLID OBJECT that lies "*underneath every interpretation*."³⁶ How is this managed? The answer is: through a combination of grammar and gesture. At the grammatical level, an existential construction (THERE *is/are* + NP) is used to establish the reality of

³³ An interview with BBC Radio 3 new generation artist Ashley Riches (6'): "How to be a singer" (2017).

URL: <https://www.youtube.com/watch?v=1GizXk9MR1I>

³⁴ In gesture research, RH stands for "right hand" and LH for "left hand."

³⁵ This is the phrase used by Jürgen Streeck (2009) in the title of his monograph. "Manufactured" literally means "hand-made", from Latin *manus* "hand" and *facere* "to make."

³⁶ The full sentence is: "Underneath every interpretation and performance of a song or opera or whatever, there has to be a really solid technique that your body understands and will always resort to."

SOMETHING and introduce it, as a DISCURSIVE OBJECT. *“(Vocal) technique”* is the THEMATIC OBJECT that the speaker invites the listener to LOOK AT and EXAMINE closely. This OBJECT comes under their joint VISUAL AND MENTAL SCRUTINY. The hand gesture makes this explicit. The speaker’s firm hold on the mental object is iconic of the notion of solidity, which is verbally expressed with the adverb *“really”* and the adjective *“solid”* in *“a really solid technique.”* The concrete physical imagery that these two modifiers convey is the ultimate proof that *“technique”* has been reified, i.e. treated as a THING in the speaker’s mind. It is important to note that adjectives like *solid, firm, strong, stable* are often applied to ABSTRACT OBJECTS - e.g. *“a solid argument,” “a strong and stable relationship,” “a firm answer”* – in ways similar to PHYSICAL OBJECTS (e.g. *“a solid wall,” “a strong rope,” “a firm platform”*).

Ashley Riches is a professional opera singer who feels comfortable with his body and has received extensive training in acting. But his “gesturecraft” is by no means exceptional. With or without explicit instruction, most speakers are likely to enter a cooperative relationship with their listeners. They know that it is in their best interest to be clear and persuasive when they report or explain something to others. For communication to be successful, they need to produce simple imagery, verbal and kinetic, concrete and abstract, which will facilitate cognitive processing (Arnheim 1969, McNeill 1992, 2005, Goldin-Meadow 2003). Creating, displaying and manipulating FICTIVE OBJECTS OF CONCEPTION is common in studio interviews and oral presentations. The gesture space is characteristically used to locate and connect events and ideas. It is space endowed with narrative and conceptual significance (McNeill 1991, 2005). VIRTUAL OBJECTS are imaginatively placed, handled or designated inside that space. One of the most spectacular hand gestures used for presenting THEMATIC OBJECTS³⁷ is the “frame” (Calbris 2011) or “globe gesture” (Lapaire 2016). This particular gesture creates the image of a THING or SHAPELESS BLOB OF SUBSTANCE. The speaker and the listener are invited to share the MENTAL OBJECT as their joint focus of attention (cf. Figures 10 and 11 above, and Figure 13a below). Coordinated visual and mental reference is instantly achieved:



Figure 13a – “THAT INTERPRETATION...”

³⁷ A THEMATIC OBJECT is the THING that occupies the speaker’s thoughts and is currently being talked about.

Once the MENTAL OBJECT has been set up and displayed in gesture space, it may be manipulated in a variety of ways. PHYSICAL MANIPULATION metaphorically stands for MENTAL MANIPULATION, or otherwise stated, MANUAL ACTIVITY symbolizes CONCEPTUAL ACTIVITY. This is particularly evident in the gesture sequence that immediately follows. Ashley Riches explains that he usually develops his own color, inflection and delivery style, after he has mastered the score and done the technical exercises. He gives kinesic form to his argumentation by metaphorically placing his “*interpretation*” (held in his RH) ABOVE “*the basic well sung version*” (held in his LH). His grip on both OBJECTS is firm and the hierarchy meaningful: the personal version RESTS ON the basic version (Figure 13b), which serves as a FOUNDATION (Figure 13c).



Figure 13b- “...COMES ON TOP OF THE BASIC WELL SUNG VERSION”



Figure 13c- “... WHICH IS UNDER EVERYTHING”

As this last example attests, co-speech gesticulation does more than just “accompany” words. It is a symbolic “action system” (Kendon 2004) that actively contributes to the formation and expression of thought. The gestures produced in connection with speech are not only a “window on the mind” (Goldin-Meadow 2003) but a constant reminder that:

- Language is based on articulatory movements produced by the human body;
- Forming sentences and shaping meanings is a kind of fabrication activity;³⁸
- Gestures are “active participants in speaking and thinking” (McNeill 2005 :3).

Concluding remarks

Our experience of physical matter provides a firm experiential basis for the conceptual organization of language and its functional uses in narrative and argumentative contexts. Nouns typically denote UNITS OF THOUGHT AND EXPERIENCE – the THINGS we perceive, the THINGS we have in mind, the THINGS that we talk and reason about. “Ontological metaphors” (Lakoff & Johnson 1980, 1999) and “conceptual reification” (Langacker 2000, 2008) accordingly play a central role in human cognition. They are essential components of semiotic expression, in all its verbal, written or gestural manifestations. Gesture research, in particular, confirms that reflection is physically and metaphorically enacted as a type of OBJECT MANIPULATION that gives visibility and substance to invisible thoughts (Lapaire 2016). That is why our experience and understanding of MATTER matters so much; why THINGS, not just our HANDS, “help us think” (Goldin-Meadow 2003).

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³⁸ « When speakers use gestures (...) they are engaging in actions on, or in relation to, objects and spaces in a virtual environment. The actions of gesture are derived from the uses of the body, mainly the hands, in making things (...) The human species is the fabricating species.” (Kendon 2004: 360)

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