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Comment on Birth'paper on "Time and the biological consequences of Globalization"

Hervé Albert-R-E Barreau

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About K.Birth, « Time and the Embodied, Biological Consequences of Globalization », a comment by H.Barreau

Kevin Birth describes the conflicts between human circadian rhythms and the current time schedule of social life. He shows that these conflicts are not sufficiently recognized by postmodernism, economics, the history of contemporary time-reckoning, and the epistemological divide between natural and social science. On all these points, his criticisms are more often than not pertinent. But at times the contradictions are also overestimated. For example, it is not correct, as the author writes, that « clock time » is now determined by the averaging of the time indicated by cesium clocks distributed across the world ». This averaging supplies atomic time (AT) and AT is only one of the two determinants (AT and GMT-UT) of coordinated universal time (CUT) which is the basis of « standard time ». Otherwise we could not use GPS ! Similarly the establishment of « time zones » was, more a century ago, a way in order not to divorce UT (Universal Time derived from Greenwich Mean Time) from « solar time », which remains, as the author is right to emphasize, the frame of our natural rhythms (work/rest) and especially the chief « zeitgeber » (or synchronizer) of our circadian biological rhythms. On these circadian rhythms the developments of the author are welcome and especially accurate. It was necessary to make these developments in order to show that the prescribed work times in our industrial society have biological effects upon the internal desynchronization of circadian rhythms and their external desynchronization facing daylight cycles. Of course it is only for administrative convenience that China has one time zone merely, and not three time zones, as it was foreseen. The same administrative convenience appears in Martinique, when the candidates for entry in the police force are called together at 3 :00 AM to set their tests, in order to coincide with the time of the exam in France. In this latter example, the true reason, which is not given by the author, is to prevent the candidates of Martinique to be informed before their exam about the tests to be performed ; but one could prevent this trickery by giving at 8 :00 AM other tests of same difficulty. On these two examples and other aggressions against body rhythms, such as night shift work, the author is perfectly right to denounce rigidities which are useful for dominant people and cities, but damageable for subordinate people. More attention on daylight cycles must be a rule for the schedule of all occupations and human activities. It is scandalous that « the scheduling for the Olympics (Athens, 2004) was anomalous for marathon running, and seemed driven by maximizing the audience that inspired the greatest advertising revenues, namely Western Europe and North America ». The author reports that, on this occasion, « the British runner Paula Radcliffe dropped out of the women's marathon due to heat exhaustion », an example of numerous diseases provoked by misplacing activities which demand the full possession of capacities which are only available during a few hours of the body cycles. The author mentions, after Moore-Ede (1993), that « many major disasters caused by human error – the Exxon Valdez oil spill, the nuclear accidents at three Mile Island and Chernobyl, and the Union Carbide disaster in India – all occurred at night, and were associated with excessive overtime and poor shift-work scheduling ». It would not be surprising that the beginning of the next nuclear war (God prevent us of that !) should occur at night, when some politicians exhausted by day and night discussions would not see other means to preserve their power than to push the releasing a catastrophe button. Man can not forecast how many errors are possible under mad time conditions.

Must we be pessimistic about the consequences of globalization ? The author denounces « a globalization without a globe », meaning by globe « a rotating globe where each locale has its own cycles of day and night ». It is true that globalization, if not controlled, tends to exaggerate the homogenization of standard time for number of people without attention to their own location on the globe, and to create « space-time compression ». But this tendency

is not the consequence of the modern scientific conception of standard time itself. On the contrary, Universal Time and Time Zones, as I recalled above, are compromises between the regularity of new clocks (first mechanic, then quartzic, lastly atomic) and the less regular rotation of the Globe, which is not forgotten but observed. Besides, the very concept of time in all cultures is founded upon natural and cultural « invariants » as I gave an outline of in the review *Time and Society*¹. In face of globalization, all cultures have their own means to accept what is reasonable and to refuse what is contrary to human dignity.

Hervé Barreau
CNRS-Strasbourg-Nancy, UMR7117

¹ H.Barreau, « The Natural and Cultural Invariants of the Representation of Time in face of Globalization », *Time and Society*, 2.000, Sage, vol.9(2/3) :303-317