

Chapter 25. A phenomenon even more interesting than “digital biology”?

Another black box?

In fact, another “black box” had already crossed the pathway of J. Benveniste well before the one about which we spoke in the previous chapter. Indeed, when J. Benveniste told how he had the idea of “electromagnetic transmissions”, the approach had some logic: first of all “memory of water” with high dilutions, then the theory of G. Preparata and E. Del Giudice with the long-range electromagnetic waves, then the erasing of “memory” by low-frequency electromagnetic fields and finally the low-frequency amplifier. In 1995, he summarized and explained his approach to G. Charpak from high dilutions to electromagnetic transmission in these terms:

“[I] hypothesized that the effects observed on the first system (achromasia of basophils) after the disappearance of the active molecule with high dilution were caused by a EMF [*electromagnetic field*] induced by the active molecule, maintained by a rearrangement of the dipoles of water molecule. If it was the case, the EM trace must be erased by a magnetic field, what was verified in hundred blind experiments with Vladimir Cagan and Marcel Guyot (Laboratory of Magnetism of the CNRS-Meudon Bellevue). Thermal agitation by heating must also erase the signal; it was actually what was noticed. Also, if the signal corresponding to the properties of the active molecules was of EMF type, it should be possible to transfer these properties by an electronic device; that is exactly what was done. [...] Overall, the hypothesis that the observed effect was related to EMF has been very successful.”¹

On another occasion, he told how he got the idea of electromagnetic transmission:

“[...] the experiments performed in the Central Laboratory of Magnetism seem to establish that the fields present in high dilutions have low frequencies. Besides, I vaguely know the existence of devices supposed to transmit biological data through an amplifier. These installations are used by homeopaths. One of them, doctor Attias, presented me a few years ago the functioning of his machine of the German brand Mora. Originally, the use of this type of device is supposed to help homeopathic diagnosis by sending small electrical charges to the points of acupuncture.

According to some homeopaths, among whom Attias, it would also allow transmitting the activity of homeopathic substances, from a vial containing a dose of such a product positioned in a place of the machine towards another vial at a second place.

However, as often in the world of alternative medicine [...] one does not find many scientific publications supporting these results.”²

Then, J. Benveniste pursued by describing the experiments performed with the device designed by his friend electronics engineer.

Nevertheless, another version of the events circulated, resumed in particular by M. Schiff who at this moment began to frequent the laboratory of Clamart during the spring of 1992 when the first electromagnetic transmissions were performed. In this other version of events, the homeopath physician, doctor Elie Attias, played clearly a more decisive role than J. Benveniste evoked only half-heartedly.

In fact, as early as 1988, this physician suggested to J. Benveniste to use a curious device of the brand Mora. These devices are indeed used by some homeopaths for “diagnosis” or manufacturing “medicines” which are supposed to have healing virtues. This “bioenergy”-type approach is close to radionics. Needless to say that none of these instruments was the object of a serious evaluation. We are thus exactly in the same scenario as for radionics. A pseudo-scientific speech is stuck on a “device” and its supposed functioning rests on a complex technology that remains mysterious for the layman. But maybe the condition of its “efficiency” is there. M. Schiff reported in these terms how E. Attias intervened in the story of the “memory of water”:

“In June, 1988, a few weeks before the fateful visit,³ a doctor homeopath, doctor Attias, convinced Benveniste to try his machine. This machine was supposed to transmit chemical information from the plate of entry to the plate of exit. At that time, Benveniste had just learned the theory of the coherent domains of Del Giudice and Preparata.”⁴

And M. Schiff pursued:

“It is difficult to reconstruct these events so long after the facts, but one can imagine that Benveniste, who looked for an explanation of his observations on high dilutions himself said: "after all, why not? We can try." Whatever the reason, Doctor Attias brought his machine to Clamart. According to the lab notes of Elisabeth Davenas, the result of this first experiment was

positive. According to her notes, she seemed perplexed in front of this result.”

Both versions were not contradictory up to here. But M. Schiff specified:

“After almost four years, Attias managed to convince Benveniste to resume transmission experiments. These experiments were done again in a more systematic manner during the spring of 1992. I remember the phone conversation in which Benveniste spoke to me about the transmission of a chemical activity by an electric machine. I was as sceptical as those who first heard about the possibility of transporting the human voice by an electric wire. I nevertheless attended some of the first trials which were made with Attias. After a few experiments with this machine, Benveniste had another one built, which consisted of essentially two coils connected by an amplifier of low frequency.”⁵

Also, in an article of 1999 from the journal *Le Quotidien du Médecin* intended for physicians, it was this last version of the story that was reported:

“The laboratory of Clamart begins then to use a device (proposed initially by a homeopath, Dr Attias) comprising of an input coil in which a tube of active solution is placed, a low-frequency amplifier and an output coil, in which a tube of naïve water is placed that will be active after having received the amplified signal placed in the input. With this device which was cobbled together at first and then quickly improved, Benveniste confirms the first indications in favour of an electromagnetic nature of the signal.”⁶

Even if one the sources of the article is perhaps the book of M. Schiff, it is interesting to learn that J. Benveniste then wrote to the editorial board of the journal. First of all, he congratulated it on this “remarkable” article which – it is true – presented his work in a detailed way and very favorably. Especially he wished to fix some “errors”. Among them, he was anxious to specify:

“Doctor Attias came to the lab with his Mora-type machine, *after* I “cobbled together” my amplifier. The principle is very different from it. No experimental series was made on this model.”⁷

This was consequently a version that was at the opposite of the one of M. Schiff where E. Attias intervened much more prematurely in the story. Moreover, during the summer of 1992, E. Attias was a little bitter because he had the feeling that his contribution was long forgotten. Although J. Benveniste invited him, he did not participate in the sessions of blind demonstrations

organized in Clamart during the same summer. He also spoke about his “disappointment” with a collaborator of J. Benveniste. To retie the links with E. Attias, J. Benveniste sent him a letter where he explicitly confirmed the version of M. Schiff:

“It is true that since I have the machine I do not need as much to go boulevard M. [*place of residence of E. Attias*] and you to come to Clamart, which imposed us with incompatible constraints with our timetable. [...]

Be assured that you are completely associated with the program. Although my patent attorney regrets that you were not able to give him the technical information about the machine, you are associated with full rights with this process. Also you will be a co-author of any publication on the subject. This is a commitment from my side.”⁸

E. Attias was actually a signatory in 1993 of two communications in the form of “posters” at congresses which concerned electromagnetic transmission.⁹ But his collaboration with the team of Clamart did not have any development later.

These details are intended to show that the use of the “machine” of E. Attias preceded during the spring of 1992 the construction of the first “official” prototype for electromagnetic transmission by the friend of J. Benveniste who was electronics engineer. It was logical that J. Benveniste “forgot” the exact moment of the appearance of E. Attias in the story or that he said he “vaguely knew” the existence of this type of machine. Reporting the events without omitting any episode and according to the exact chronology meant recognizing that an apparently rational step was in fact founded on a “black box”. As for radionics, admitting that the machine of E. Attias produced positive results while it should have produced only mockery of experiments would be devastating for “electromagnetic transmissions” and besides also for high dilution experiments.

An endless pursuit?

Contrary to both “black boxes” which questioned the relevance of “digital biology” and “memory of water”, the “eraser effect” was less destabilizing. According to the interpretation of J. Benveniste, one could indeed consider that digital biology is a reality and that its effects can be “modulated” by some experimenters, either “facilitators” (J. Aïssa) or “erasers” (S. Lim). Moreover, even if the “eraser effect” impeded him, J. Benveniste did not deny it and there was no “family secret” about it.

Despite these considerations on the “eraser” effect, Benveniste did not wish however to do any publicity on it. Therefore he preferred not to encourage the proselytism of B. Josephson on this subject. Even if this last one with his aura of Nobel prize laureate was a valuable ally for J. Benveniste, his flirt with parapsychology and his insistence on an “experimenter effect” were not in keeping with the line that the team of Digibio had set. Indeed, if this logic was pushed until its term, the foundations of “digital biology” would be undermined.

This difference on the purposes between the team of Digibio and B. Josephson clearly appeared when this last one answered to a “skeptic” who appeared to “worry” about the silence of J. Benveniste on his experiments. This interlocutor noticed that the Internet site of J. Benveniste became unchanged for two years that is since the announcement of the setting of the automatic device. B. Josephson answered to him early November 2003 via J. Randi who published the exchange of mails on his Internet site:

“Further research by Benveniste has shown the samples to be affected not only by the "biological signals" applied intentionally in the experiment but, in some way not yet understood, by the experimenters, some of whom facilitate the effect while others inhibit it. [...] I have encouraged him to speak more openly about his findings, which make the phenomenon even more interesting from my point of view.”

We indeed understand why these observations strongly drew attention of B. Josephson who wondered about the relations mind-matter. Consequently, for the Nobel prize laureate, these experimental “abnormalities” could be even more interesting than “digital biology” itself. But such a statement obviously offered a perfect target to the various “skeptics” and Randi did not hesitate to laugh:

“Is there not another possibility that occurs to either Josephson or to Benveniste? Are the windows in their Ivory Tower so heavily frosted up?”

The conclusions of the American team which had examined the functioning of the robot – if we read them attentively – led also to a position which was not so far from the opinion of B. Josephson. The results of this expertise were indeed reported to the DARPA in 2003¹⁰ and were then published in 2006 in a scientific journal.¹¹ In their conclusions, the members of the American team – while underlining the failure of an *independent* reproduction of the results –

recognized however that the presence of J. Aïssa was an important condition of the functioning of the robot:

“We observed apparent inhibition of thrombin/fibrinogen coagulation by a digital signal when one member of the Benveniste team conducted experiments in our laboratory. We did not observe systematic influences such as pipetting differences, contamination, or violations in blinding or randomization that would explain these effects from the Benveniste investigator. However, our observations do not exclude these possibilities.”

Cautiously, they added however that their “observations do not exclude these possibilities” and they reminded that J. Benveniste himself had reported similar observations in his laboratory:

“[J. Benveniste] posited unknown interactions with digital signals that produce these effects and states that he observed similar experimenter variability in his laboratory (personal communication). He stated that certain individuals consistently get digital effects and other individuals get no effects or block those effects.”

Finally, the authors pointed out that unknown factors could be responsible for the claimed effects, but that it was not the aim of the expertise to assess them:

“While it is possible that other, unknown “experimenter” factors, such as the influence of chemical residues, energetic emanations or intentionality from individual experimenters could be an explanation for these findings, we did not test these hypotheses nor developed a framework that would control for such factors. Without such a framework, continued research on this approach to digital biology would be at worst an endless pursuit without likely conclusion, or at best premature.”

Let us remind to reinforce this conclusion that this expertise practiced an approach that was totally different compared to the other expertises or attempts of reproduction of the results of J. Benveniste. The expertise had been led by taking care to obtain the permission of all the partners at each stage, regardless if they were skeptics or partisans. The purpose, according to the terms of the authors of the article, was to obtain a “fair and collegial” scientific method. This conclusion of the expertise which did not totally exclude “unknown experimenter factors” – but whose the study, once again, was not the purpose –

left open the possibility for a development of future studies having their source in the results of “digital biology”.

We thus find in this conclusion two constants which one has repeatedly noticed in this story when investigators studied with honesty, curiosity, “loyalty” and professionalism the experiments of J. Benveniste – not without skepticism for some of them as we have also seen. First of all, there was the recognition that “something”, which was not trivial, was obviously at work; at the same time, one had the feeling that the idea of “memory of water” or “electromagnetic biologic signal” was insufficient or unsuitable to explain the claimed results.

Notes of end of chapter

¹ Letter of J. Benveniste to G. Charpak of January 9th, 1995.

² J. Benveniste. *Ma vérité sur la mémoire de l'eau*, p. 129.

³ It is of course the visit of *Nature* at Clamart.

⁴ M. Schiff. *Un cas de censure dans la science*, p. 57.

⁵ *Ibid.* p. 59.

⁶ V. Bargoin. « Mémoire de l'eau »: où en sont les travaux de Benveniste sur la signalisation moléculaire ? *Le Quotidien du Médecin*, March 18th, 1999.

⁷ Letter of J. Benveniste to Richard Liscia of March 19th, 1999 (emphasis by J. Benveniste).

⁸ Letter of J. Benveniste to E. Attias of July 27th, 1992.

⁹ Aïssa J, Litime MH, Attias E, Benveniste J. Molecular signaling at high dilution or by means of electronic circuitry. *J Immunol* 1993 ; 150 : 146A ; Aïssa J, Litime MH, Attias E, Allal A, Benveniste J. Transfer of molecular signals via electronic circuitry. *FASEB J* 1993; 7: A602.

¹⁰ Jonas W, Ives J, Rollwagen F, et al. Can specific biological signals be digitized? Unpublished report to the Defense Advance Research Projects Agency. Arlington, Va: Department of Defense, 2003. (This reference is for information; I do not know the content of this report).

¹¹ Jonas WB, Ives JA, Rollwagen F, Denman DW, Hintz K, Hammer M, Crawford C, Henry K. Can specific biological signals be digitized? *FASEB J* 2006; 20: 23–8.