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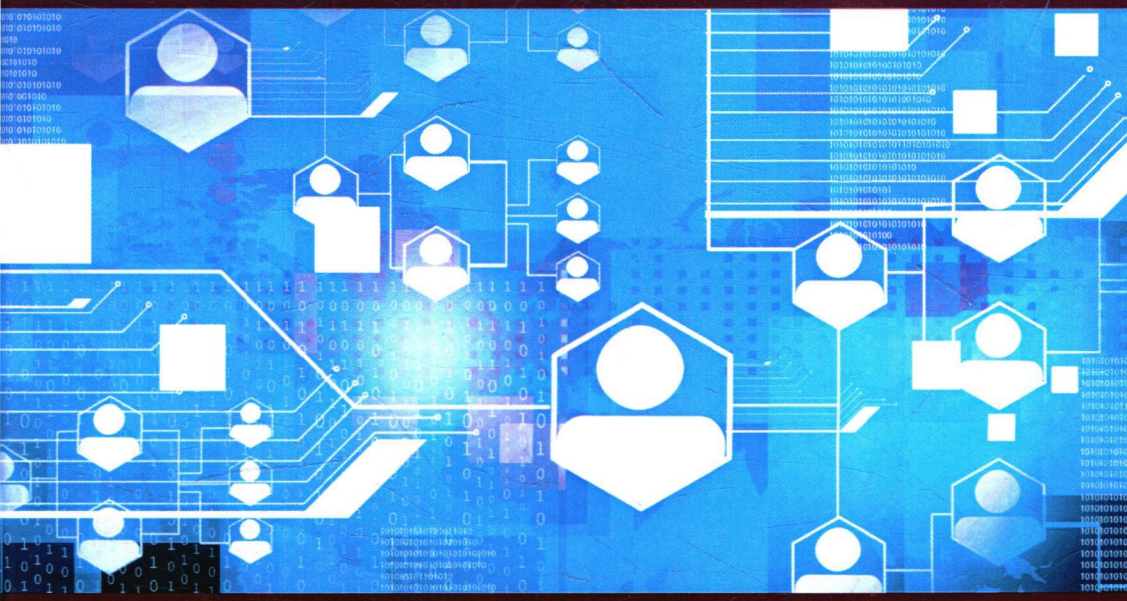

Volume 1

Inside Anthropotechnology

User and Culture Centered Experience

Edited by
Philippe Geslin

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Coordinated by Georges Guille-Escuret

For the last 40 years, anthropotechnology has concentrated its efforts on the study and improvement of the working and living conditions of populations throughout the world.

It guides the actors of the design processes by paying attention to the "human factor": its social, cultural and environmental components. It therefore values a conception of techniques that respect people and their ways of thinking and acting in specific contexts.

This book introduces the reader to design dynamics that combine often conflicting sets of competencies, but that are always anxious to respond to the contexts of the field.

Philippe Geslin is Professor of Ethnology at the University of Applied Sciences, Western Switzerland, and the founder of the first Laboratory of Research in anthropotechnology. His work focuses on the development of anthropotechnology and he is currently working on the forms of ethnographic restitution through various media: photography, theater and literature.

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Inside Anthropotechnology

Introduction

Since the end of the 1960s, anthropotechnology has focused on the study and improvement of working and living conditions. It contributes to transforming the situations in which it intervenes at the request of social partners from diverse fields (companies, agricultural industry, national and international institutions, research, minorities and so on) in several countries[1]. Founded on an ergonomic approach to labor, anthropotechnology began to move away from this approach early on because of the shift that it represented. Anthropotechnology intervenes in multicultural situations in the context of technology transfer, and by extension, in all situations where the future use of a technique or an object to design is different from the one that initially inspired it.

This difference creates offsets between a prescribed activity (what ought to be done) and a real activity (what is really done by users), with repercussions that often have serious consequences for individuals and communities. Anthropotechnology contributes to anticipating these discrepancies. It informs design processes by making them attentive to the "human factor", its collective aspects and the overdetermined dimensions of the concept, which are social, cultural and environmental. Consequently, anthropotechnology value design is centered on individuals and how they think and act in specific contexts. To do this, it unites a set of core competencies

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Chapter written by Philippe GESLIN.

1 See www.anthropotechnologie.org; www.philippegeslin.com.

around a single request in order to understand as many aspects of the intervention situation as possible. It "is part of the "bottom-up" approach, and for this reason it is similar to other similar methods in Human Sciences: ethnology, psychodynamics, etc. It is used to answer a precise question and it is geared toward proposing operational solutions" [WIS 96].

It is important to point out how anthropotechnology is considered and implemented today in our laboratory, and to recognize its recent institutionalization in Switzerland at the University of Applied Sciences. This recognition was gradual. From a simple interest in ergonomic intervention in the world of labor[2], it quickly became, as Daniellou [DAN 96, p. 5] noted, a reference for debates about what could constitute an intervention in anthropology. It was the "catalyst"[3] that motivated the anthropology of techniques[4] to produce knowledge in areas that practice had revealed to be incomplete.

To paraphrase Daniellou [DAN 96], all of the participants in this book are convinced that the question of knowledge in anthropotechnology cannot be treated independently from the engagement of this "discipline" in the action of transforming working situations and technology design. It is therefore impossible to evoke the status of knowledge in anthropotechnology without evoking its role in the action and (Daniellou wrote "perhaps") its creation by the action. In this sense, the authors of this work insist on the "integrating

2 In 1997, B. Pavard noted: "The ergonomic analysis of labor developed by Alain Wisner... must be guided by all the problems that are identified in the field and compatible with the objective of improving working conditions, living conditions and company productivity conditions. By 'all problems', Alain Wisner intended not just the analysis of factors that are internal to the establishment, but also those which are external to it, such as those related to economic, social, cultural or political conditions. In this sense, the ergonomic analysis of labor... does not only draw on one discipline, but rather on a set of scientific fields that are relevant to the problem to be solved".

3 op. cit.

4 According to Cresswell [CRE 96], the ethnology of technique, also known under the name cultural technology, is distinguished from technology itself, in that it attempts to establish relations between technologies and sociocultural phenomena: kinship, religion, politics and so on.

character" [DEJ 96] of anthropotechnology: integrating scientific knowledge in the work of each of our interventions, as well as integrating the field actor knowledge in the dynamics of design.

The evolution of anthropotechnology

In 1962, Wisner (see [WIS 97, p. 5] and [GES 06a]) wrote his first reflections on anthropotechnology (although without using this term, which appeared in 1979) in the context of a round table entitled "Ergonomics and Work Organization", organized by Maurice de Montmollin during the 15th convention of the Société d'ergonomie de langue française (French-Speaking Ergonomics Society) in Paris.

It was not until the end of the 1970s that the first writings in this field were published. Similarly, a seminar was offered at the Conservatoire National des arts et métiers de Paris (CNAM) as early as the 1980s. It ended during the 1990s with Alain Wisner's retirement. The desired rapprochement between ergonomics and anthropology could not hide the fact that ergonomics also borrowed from other disciplines. Our objective here is less to propose an analysis of these approaches than to note their existence to the extent that they provide other points of view on the dynamics of design centered on users and uses. Whether it is the "ergology" developed by Yves Schwartz, the "macro-ergonomics" of Hal Hendrick or the "cultural ergonomics" devised by Michael Kaplan, they are all constructed through more or less close ties with anthropotechnology as it was conceived of by Alain Wisner even if the latter, like ergology, refutes the essentialist perspectives that we perceive to underlie the others.

Important publications appeared from this period up to the mid-2000s. French-language contributions included the summary work of Alain Wisner on anthropotechnology [WIS 97], the overview by Duraffourg and Vuillon [DUR 04] and the special issue of the journal "Travailler", edited by Christophe Dejours [DEJ 06]. English language contributions included the books of Michael Kaplan and Johnson [KAP 04, JOH 13] about cultural ergonomics in line with the works of Chapanis [CHA 75]. This included a contribution by Alain

Wisner and recognized the influence of his thinking on the development of the field of ergonomics in North America. Anthropotechnology has been integrated in the Classic Handbook of Human Factors and Ergonomics Methods [GES 04b] as well as the publication of the 8th colloquium on Human Factors in Organizational Design and Management, which took place in Hawaii in 2004, during which a tribute was paid to Wisner's works in a workshop led by Hal Hendrick. Finally, there was a special issue of the online journal Laboreal dedicated entirely to anthropotechnology [GES 12, BAU 12] and a recent (2016) colloquium on the legacy of Alain Wisner held at the Conservatoire National des Arts et Métiers in Paris.

As a whole, these texts attest to the extent of the influence of Alain Wisner's reflections in the field of anthropotechnology, to the point that we can say, like Daniellou, that although it was not an institutionalized field of research, it survived by "impregnating" the works of individuals who were trained by him and who were confronted with the increasing multicultural aspects of working situations. This statement mitigates the remarks of Darse and Montmollin [DAR 06, p. 39] about the decline of anthropotechnology. It may have been in decline in the ergonomics world in which it was created, but not outside of that discipline. Alain Wisner's departure from CNAM and the direction taken by the new management brought anthropotechnology out of ergonomics, its field of origin. This direction laid the foundation for its emancipation from ergonomics. An emancipation that was desired by Alain Wisner:

> "I feel a certain reticence toward including related activities in ergonomics: the organization of work and training, for example, as in macro-ergonomics. I prefer when the collaborative role of the human sciences prevails in the analysis and the proposed solutions. That is why I proposed the anthropotechnological paradigm. I worry that the inflation of ergonomics to its etymological meaning (science of work) will result in its dissolution or its breakdown. And in that case, who will remain to deal with improving the technological system?" [WIS 96].

The development and institutionalization of anthropotechnology took place gradually outside the framework of ergonomics, in anthropology, and beyond national borders, mainly in Switzerland[5], as well as in countries where Wisner's contacts and teachings influenced an entire generation of ergonomists in Brazil, Argentina, Chile, India, the Philippines and the countries of North Africa.

The attentive reader will have noticed that this field also gradually began to include academic research about technology. In addition to the works that I mentioned in a previous publication [GES 06b], others that should be noted are the works of the philosopher Gilbert Hottois [HOT 09], anthropologists Marie-Pierre Julien and Céline Rosselin [JUL 05], ethnologist Marie-Claude Mahias, business management specialists like Pascal Lièvre [GES 04a, GES 06b], the theories of sociologist Albin Amard [HAM 15] on meditational practices, and more recently works by the ethnologists Hervé Munz [MUN 16] on the Swiss clock-making industry, Laura Bertini (Chapter 4), and Matthieu Bolay (Chapter 1), just to cite a few[6]. They all place anthropotechnology within the social sciences. Some consider it to be a technology of intervention and others consider it to be a new disciplinary field [GES 06a], or even an art, although the matter is not closed[7].

A gradual institutionalization

My encounter with Alain Wisner was decisive. At the time, the development of anthropotechnology that he taught seemed to offer, to the young researchers that we were, new paths of intervention, new

5 A. Wisner pointed out: "We might think that in France, anthropotechnology has won the day, and that in developing countries, that is not the case. First of all, I would say that France has not at all been won over. I have had very serious difficulties in my own field, ergonomics and more particularly the field of psychologist ergonomists, as well as from the anthropological side, even if, when Geslin's thesis was published, there was a favorable reception" [WIS 97, p. 8].

6 The reader can find a more complete list on www.philippegeslin.com.

7 With hindsight, my thoughts on this matter are now fairly close to those of Alain Wisner when he stated, for ergonomics – but it also applies to anthropotechnology – that it is first of all an art, a professional practice, and to a lesser extent, a scientific field.

ways to be "useful". By this, I mean that he offered our disciplines, whether it was ergonomics, geography (geographers attended Wisner's seminar), or ethnology, the means of integrating and demonstrating the importance of individuals' ways of thinking and acting, their culture, in the process of improving working conditions, design and technology transfer.

I questioned the relevance of ethnographic methods in the anthropology of technology. If we were to compare the results of our analysis with those of other ethnologists of technology (anthropological work), should we not at least use the same tools of ethnographic description and analysis for practices observed on our respective fields? In my view, the patchwork methodologies of participant observation were far from responding to such concerns, but the ergonomic study and analysis of labor did. I agreed with the concerns of certain anthropologists of techniques – Robert Cresswell and François Sigaut – who saw ergonomics as a means of furthering the study of technical work, and I wanted to extend it to tools of observation and analysis for activity, intervention methodologies, and later, other components of activity, especially cognitive and sensorial aspects.

A whole universe opened up with "cultural technology"[8] in terms of possible applications of these skills in response to concrete requests – requests brought by those who were and still are "objects" of ethnographic study. At the time, talking about the application of anthropology in general and the anthropology of techniques in particular was to condemn oneself to a standstill in an anthropology dominated by the thinking of Claude Lévi-Strauss – a prolific and fertile, inspiring thinking, but potentially paralyzing for those that followed it blindly.

Since its origins, in the 1960s, anthropotechnology has been in conflict with the programs developed in anthropology. About 10 years later, in his first texts, Wisner emphasized the dominant place accorded to anthropology in the anthropotechnological dynamic. His

8 See Cresswell [CRE 83] and more broadly all issues of the journal *Techniques et Culture*.

first attempts to approach French anthropologists resulted in failure and he had to wait until the 1980s for this collaboration to occur [GES 99, GES 02a, GES 04c] and to be supported by the very same individuals who had not followed him in the 1970s. This accurately reflects the evolution of ideas about application within this discipline during 20 years that followed Wisner's first attempts to approach them. The potential reasons for this first failure have already been presented [GES 04c] mainly because he intended to enact change in situations in which he was likely to intervene[9], but also because everything seemed to have been said, from a critical point of view, on the transfer of technologies within the social sciences.

In fact, since the 1950s, the downward and authoritarian image conveyed by the technology transfers was already being countered by sociologists, meaning certain international experts, mainly within the ILO[10]. The social function of anthropology took little notice of the debates. Although Lévi-Strauss [LEV 74] recognized that it was only partially complete, he himself had no interest in applied anthropology (*op. cit.*, p. 417). Georges Guille-Escuret rightly noted[11] that on one side, there were the anthropologists who followed the Lévi-Strauss school of thought and considered anthropology to be a semiology, placing technology outside of the field, and on the other side, there was Wisner, who considered anthropotechnology to be an "art", putting it out of reach of theoretical critiques. This distinction allows us to better understand why the dialogue was difficult for a such long

9 "We use the term "intervention", which is commonly used in anthropology (see Lévi-Strauss 1974 [1958], p. 75) [LEV 74] as opposed to the term "interference" to signify that an anthropotechnological approach relies systemically on a request formulated by a social partner. It is never a case of playing at being morally or politically superior. This position naturally implies the freedom to accept or refuse to work… (for any partner)" [WIS 85, p. 60].

10 Our work in the ILO archives in Geneva on the development of conventions 107 and 169 about the working and living conditions of indigenous and tribal peoples revealed to us that the first critiques from international experts and anthropologists concerning the practices inherent to technology transfers had been occurring since the 1940s, and, in a more isolated way, since the 1920s [GES 05c] and [GES 05d].

11 "Objets et méthodes de l'anthropotechnologie" seminar, EHESS Paris, directed by Ph. Geslin, 2005.

time with anthropologists and even with other representatives of social sciences who were approached in the early days of the anthropotechnological program.

Wisner also specified [WIS 95]:

> "My scientific work has never been directed toward the resolution of theoretical problems... at least toward contributing to the resolution of societal problems by means of science, including, naturally, the development of theories on the subject. It is an inversion of the priorities of the scientific community".

This reversal should be at the center of debates in anthropology today. Because in the end, the differences regarding the priorities of the scientific community are less about producing theories than the means used to achieve them and in that regard, ergonomists have shown that it is possible to produce theoretical knowledge about labor using the same process.

Why then, in an intellectual context like this, as an ethnologist, do I continue to use the term "Anthropotechnology?"

I have continued to use this term in my research and at my institution out of respect for Alain Wisner's thinking and for his actions, which notably included passing down his archives related to anthropotechnology to me when he retired, archives organized and prepared by a society dedicated to this task and which are today accessible online through the documentation center of our Ecole. The entry "anthropotechnology" is also finally integrated in the Nebis library networks[12]. Another reason is the desire to distinguish this field of application from an anthropology of techniques or "cultural technology", which at the time was too dismissive of its position regarding social demands. In hindsight, I believe that this disregard was detrimental to it. The only "cultural technology" laboratory has disappeared from the scientific field. Today, there is only a journal of

12 Website and further information available at www.anthropotechnologie.org.

the same name whose endurance in the publishing industry is a true feat that should be commended.

I want to recognize the unique nature of this field by highlighting its transformative goals [GES 07b], emerging from basic research about techniques – research which was poorly perceived by the fields that I worked with at that time, including development, NGOs, international institutions and engineering schools in which I was convinced of its utility.

Today, anthropotechnology as we practice it in our team unites – based on requests and fields – a set of skills that, along with the skills of the actors in the "field", allow us to grasp most of the facets of intervention situations using anthropology of techniques, ergonomics, distributed cognition, sensory anthropology and engineering/design. Its institutionalization in the engineering department at the Haute Ecole Spécialisée in Neuchâtel was achieved though the research lab that I founded in 2007. We have been able to, over time, combine these skills internally through different recruitments[13].

On the choices that allowed for the creation of this research laboratory 10 years ago

I spoke extensively with Alain Wisner about strategies to use for the development of such a field. His position consisted of intervening on several fronts – through the United Nations where his involvement was noteworthy, especially within the International Labor Organization and the Programme international d'amélioration des conditions de travail (PIACT) (International Programme for the Improvement of Working Conditions), and through the company, which, it must be known, was reticent about the idea of proposing intervention territories.

13 The first EDANA lab has today transformed into a group of user- and use-centered design skills. Ten years on, it is directed by anthropologist, engineer and ergonomist Carole Baudin.

In the archives, I found this letter, dated June 1, 1976, sent by Alain Wisner to Bernard Fortin, head of the ILO Governing Body in Geneva. I believe that it reflects Alain Wisner's mindset at the time:

"Dear sir,

I brought with me the PIACT report intended for the ILO Governing Body with me to read this weekend and I must confess that it brought me great joy. Not only did I find certain perspectives in it that are very dear to me, but I also found them included in the great movement that has supported the ILO and various international organizations for decades.

Like you, I believe in the need to profoundly update ideas about working conditions and safety, and not to limit ourselves to legislation, standardization, and formal instruction, and I also believe that, in many cases, we have to bring out the big guns.

I would very much like to participate in many aspects of the realization of the PIACT, but I await my assignment from you, taking into account the fact that naturally I prefer to act locally by analyzing the situation, choosing people, and organizing systems, than in Geneva drawing up documents…

A. Wisner".

In a letter dated December 20, 1976, Francis Blanchard, director of the ILO entrusted Alain Wisner with an important mission to the Philippines.

Included here is the text of Article 2 of the "Introduction" of the international program for the improvement of working conditions and environment. An excerpt dated from the months of May and June 1976 is, unfortunately, still topical:

"Despite the progress that has been made in the last fifty plus years, to which the ILO greatly contributed through all of its activities, the working conditions of a very large number of workers are