

holism), and endeavors to elucidate molecular, physiological and pathological mechanisms believed to form the basis of biological processes. “Allopathic” medical treatment often logically consists of interventions chosen to interfere with identified pathological molecular processes. While biomedicine does not necessarily reject religion or spirituality, it does not routinely integrate these aspects into diagnosis and treatment (unlike traditional systems).

I believe that it is often relatively simple underlying philosophical beliefs that shape the development of a society and all the subsystems (legal and educational, etc.) within that society. In this context, it will not be surprising that philosophical underpinnings are reflected in the various factors that affect healthcare, sociological, economic and scientific/medical. The following grouping is arbitrary because, ultimately, all factors could be grouped under “philosophical” or “cultural”, as these considerations are, in our view, those that underlie the development of society. We have nevertheless arbitrarily defined three categories. A group of “sociological factors” more or less correspond to the basic structure and function of society (political and regulatory factors, competition and administrative structures). “Economic factors” have been segregated because in most cultures these considerations are the major driving force for societies’ priorities, and because they increasingly influence other values, such as ethics and education, that once were more central in guiding individuals’ lives. Finally, “scientific/medical factors” were also grouped separately, because they present a set of issues that are of particular relevance to the evaluation of AM.

### 5.2 *Sociological Factors*

#### 5.2.1 Politics/regulation

The interaction of politics and healthcare is extensive, complex, and inevitable because healthcare is such a fundamental aspect of national economies, and because individual and population health status must be addressed.

In the US, for example, political interventions, as suggested above, have played a significant role in AM's recent development. In October 1991, the US Congress directed the NIH to create an Office of Unconventional Medical Practices.<sup>12</sup> This was met with a less-than-enthusiastic response from the government agency,<sup>21,22</sup> but simultaneously, with high public expectations.<sup>23</sup> The public and congress have consistently put pressure on the OAM (now the NCCAM) to fulfill its mandate, while the NIH has been reluctant to progress too fast in a field that it does not consider "scientific".

In most countries, politics are similarly involved at some level of the development of alternative or traditional medicine. For example, in the Peoples' Republic of China, the Chinese Administration of Traditional Chinese Medicine is under the authority of the Chinese Ministry of Health. The Chinese government has been active in guiding the modernization of technological and scientific approaches to TCM. This has brought much better standards to the quality control of TCM botanical medicine preparations so that they can enter the international market and compete effectively with other botanical medicine preparations, in particular those from Europe.

On the other hand, in Singapore, where scientific biomedicine is the standard of care, the government has only recently expressed interest in acupuncture, and only in the context of scientifically documenting that therapy's effectiveness prior to allowing its official use. This process also drew attention to the fact that TCM was being used by approximately half the population and practiced by a significant number of practitioners, while there were no regulations, neither for practitioner qualification, nor to ensure quality of the products.

Regulatory issues are a subset of political issues, as regulations are a product of government agencies.<sup>24</sup> In the US, the Food and Drug Administration (FDA) oversees products and devices used in the practice of medicine. For complex political and legal reasons too long to detail here, botanical medicines and dietary supplements have become essentially unregulated.<sup>25</sup> They need not meet quality-control standards, and no significant information may currently be

provided on the packaging of these products, which may put the public at risk.

It is difficult to apply to alternative medical products the same regulations as those applied to biomedical products and devices, in particular to those used in traditional practices from other cultures. The lack of appropriate US regulations for alternative medical products reflects this difficulty. There are several reasons for this. For example, many traditional practices follow different diagnostic classifications than biomedicine. In addition, the complex substances (e.g. botanical, animal products) they use cannot easily meet the criteria established for essentially pure drugs, or even for conventional biologics. However recently, the FDA has begun addressing the issues posed by AM product evaluation. In particular, FDA representatives actively participated in the organization of two conferences that addressed the special considerations of acupuncture<sup>26,27</sup> and of botanical medicines.<sup>28</sup>

### 5.2.2 Cooperation or competition

Cultural factors are deeply ingrained and sometimes difficult to identify, as they have become second nature to the people who have been born to that culture. They give rise to a wide-ranging set of societal characteristics, such as relative degree of cooperation and competition among their members. Of particular interest are traits that many alternative medicine enthusiasts criticize in their society, but espouse somewhat unconsciously or unwillingly.

For example, values of competition, of scientific principles, of economic gain, etc. are actively espoused by at least a segment of the AM proponents in the US. Perhaps one of the most detrimental results is the insularity of those who have conducted research in this field. This insularity is another hindrance to the development of better understanding of alternative practices. It may be understood at least in two ways, insularity amongst disciplines and amongst countries.

Within a given environment, the isolation between disciplines (for example, between acupuncturists and homeopaths) may limit the perspective of similar conceptual or practical issues among disciplines. Even within the same general disciplines, varying schools may lock themselves into sectarian isolation. For example, homeopaths have long been divided into Unicists and Pluralists. These schools can be more or less dominant, but usually co-exist within the same countries. The Unicist School claims that only the constitutional remedy (i.e. the remedy that can correct individual's susceptibility to disease) can be effective for a particular patient. In contrast, the Pluralist School insists that various remedies can be prescribed according to individual symptoms, similarly to the use of conventional pharmaceutical drugs. Little has been done to resolve this dispute that affects both practice and research.

Insularity amongst countries translates into vastly differing rules and regulations governing practice (credentialling) and availability of products that are used in AM. These concerns overlap with some of those described under regulatory issues. In addition, the same type of isolation seen among various schools is compounded by differences in languages and cultural loyalties. For example, there are many different schools of acupuncture, and each makes different claims as to its methods and mechanisms. Thus, one Chinese school insists that needles should be inserted deeply, and twirled until the patient reports the "de Qi" sensation, an indication that the needle has stimulated the point. One Japanese school, in contrast, teaches that needles should be inserted only barely below the skin. This not only has clinical implications, but is also relevant to research. For example, in attempts to establish "placebo" baselines in clinical studies, proponents of that Chinese school have used shallow insertions as "negative" controls, which would equate Japanese acupuncture to a practice of placebo acupuncture. Improved dialog among the various schools could help to resolve differences, reducing the confusion that has been detrimental to progress in the field.

Another example of impediments to important progress is the isolation that exists among various forms of "energy medicine", often

originating in various countries. These therapies are also relatively isolated from each other, and even when they are practiced in the same countries, there has been little effort to identify common traits between them. Practitioners of Qigong, Therapeutic Touch, Johrei, Reiki, etc. although engaged in very similar practices, do not seem to have joined forces yet to understand how to optimize practice and research. For example, TT practitioners state that they need to feel the “human energy field” to be able to manipulate it and be effective. Practitioners of other very similar practices assume that therapeutic efficacy is essentially independent of the practitioner’s ability to feel the “field”. Are the practitioners dealing with differing health-promoting entities? Are they equally effective (or ineffective) in helping patients?

### 5.2.3 Administrative structures

We will focus here only on some administrative/bureaucratic aspects. In the case of AM, their impact is felt in a number of areas. To cite only one, AM does not fit well with the current structure of medically related institutions. For example, funding agencies supporting biomedical research are often structured according to disease categories. In the US, the major funding agency, i.e. the NIH is divided into a number of institutes that are often related to types of diseases or dysfunction (Allergy and Infectious Diseases, Cancer, Deafness and Communication Disorders, Diabetes and Digestive and Kidney Diseases, etc.). Topics related to AM do not fit well into such categorizations. This leads to either easier rejection of funding applications or to a mandatory restructuring of applications to fit the funding structure.

For example, the OAM was an administrative structure with no funding authority, like any other such structure within the NIH. This implied that any research grant pragmatically relevant to the OAM could only be funded by one of the institutes or centers. As a consequence, topics had to be tailored primarily to the programmatic

responsibility of the institutes rather than to the topics of interest to AM. Similarly, other grants that were perhaps less relevant to AM per se, had difficulty finding a home because they were multidisciplinary in nature and, while of cross-cutting interest to the NIH, they were not of interest to any specific institute or center.

### 5.3 *Economic Factors*

In most countries, the economic potential of growing AM markets has meant that much business and research interest in AM to date has been focused on specific techniques and products that can be marketed. On the other hand, the “healthcare industry”, or even academia, have rarely paid attention to conceptual and philosophical principles on which the use of those products and techniques are based. This trend is even reflected in government-sponsored research.

In countries like Peru, the government’s interest in traditional medicine began mostly in the context of providing affordable healthcare for indigenous populations, for example, in the Amazon basin, where most people are too poor to afford costly Western medicine and too remote to have access to it. However, in these countries also, the new interest in specific products (e.g. “cat’s claw”, “camu-camu” and “sangre de grado”) by the herbal medicine industry is beginning to create incentives other than those of affordable and accessible healthcare for the indigenous populations. These new economic incentives may be counter-productive: they may endanger both the survival of the plant species, and consequently, the health of the indigenous populations, because they encourage an economically needy population to over-harvest (perhaps to extinction) plants on which they may need to rely for their own health.

In China, the government has launched a program implementing timetables for development of new TCM “products”. Government and academic representatives have visited the US to indicate their eagerness to collaborate and to follow “proper methodology” (double-blind randomized clinical trials, RCT). Recently, at such a meeting,