

# **From wholes to fragments to wholes – what gets lost in translation?**

**Anna Luise Kirkengen MD, PhD 1,2**

**1 Professor of Family Medicine/General Practice, General Practice Research Unit, Department of Public Health and Nursing, Norwegian University of Science and Technology, NTNU, Trondheim, Norway**

**2 Professor, Department of Community Medicine, UiT The Arctic University Tromsø, Tromsø, Norway**

## **Correspondence**

**Anna Luise Kirkengen, General Practice Research Unit, Department of Public Health and Nursing, Norwegian University of Science and Technology, NTNU, Trondheim, Norway**

**Email: anlui-k@online.no**

## **Running title**

**From wholes to fragments**

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## Summary

The highly demanding and, in a certain sense, unique, working conditions of General Practitioners (GPs) are characterized by two phenomena: First, they involve an increasing familiarity with individual patients over time, which promotes a deepening of insight. Second, they enable the GP to encounter all kinds of health problems, which in turn facilitates pattern recognition, at both individual and group levels, particularly the kind of patterns currently termed “multi-morbidity”. Whereas the term “co-morbidity” is used to denote states of bad health in which one disease is considered to pre-date and evoke other ailments or diseases, the term “multi-morbidity” is applied when finding several presumably separate diseases in a person who suffers from them either sequentially or simultaneously [1]. Encounters with patients whose suffering fits the biomedical concept and terminology of multi-morbidity are among the most common which GPs face, presenting them with some of their most demanding tasks [2]. The term “multi-morbidity” needs to be examined, however. As it alludes to a multiplicity of diseases, it rests on an assumption of separateness of states of bad health that might not be well founded [3]. An adequate determination of what to deem a “separate” state of bad health would require that the biomedical concept of causation be scrutinized.

## Background

There is general agreement that one of the most demanding situations in General Practice/Family Medicine arises when the General Practitioner (GP) encounters a patient who suffers from various ailments, manifesting either simultaneously or sequentially, each of which is conceptualized in the biomedical framework as a *separate* and *different* disease [2, 4, 5]. This demands an awareness that the concept of “different” diseases only applies when states of bad health are strictly separable in terms of etiology, pathogenesis, treatment, and prognosis. The concept has no validity if these preconditions are not met [6].

A salient question, then, is: on which level does medicine differentiate etiology and/or pathogenesis? If what are supposedly two separate diseases have a crucial pathological characteristic in common, such as, for example, inflammation, are these “two” diseases still “different”? Due to which criteria are they to be regarded as different? Inflammatory processes may affect all types of bodily tissues,

for example neuronal cells in one case and connective tissue in another. The difference in the “type” or kind of bodily material that has become inflamed leads to great differences both as to symptoms and resulting impairments. However, those neuronal cell and connective tissue states of illness that are both characterized by systemic inflammation are also receptive to being treated – that is, slowed down or even blocked, though not necessarily healed – by the same chemicals, that is, substances which counteract inflammation, since these drugs act on the *hormonal* aspects of the immune system. Of course, while anti-inflammatory drugs may be effective in many cases, even more “radical” medications may be necessary in others, namely cytostatic drugs which limit excessive immunological processes at the *cellular* level. It is worth noting that the two kinds of treatment target two of the aspects of the immune system that are involved in a pro-inflammatory activity within specific bodily systems [7].

### **Cause, or source**

Whenever inflammation is the common pathological property characterizing what are defined as two separate diseases (here, for the sake of argument, one neurodegenerative and the other rheumatologic) should inflammation, then, be regarded as *causal* for both? This might be a logical conclusion if the complex phenomenon termed “inflammation” were shown or known to initiate or trigger itself – which would imply that inflammatory processes were autonomic processes. This, however, is not consistent with the demonstrated premises for such processes, that is, complex physiological changes at the hormonal / cellular level, which function as coordinating *co-contributors* to the clinical phenomenon [8, 9]. Logically, the next question must be: what causes such a complex physiological activity as the one termed *inflammation*? In an evolutionary perspective, it is the organism’s response to being hurt, safeguarding a variety of functions salient to the maintenance of viability, such as: coagulation in order to prevent excessive blood loss; increase in micro-circulation and extracellular fluid volume to allow for the transport of material for repairing wounded body parts; elevated local temperature to support processes designed for healing wounds and repairing damaged tissue; and so on [8]. In other words, evolution has designed an elaborate response pattern to confront *acute trauma and life-threatening damage*. This sparks the next question: strictly speaking, does this response pattern trigger only as a reaction to acute, *physical* wounds/trauma? Based

on the consistent documentation accumulated during the last three decades of research in the field called “psycho-neuro-endocrino-immunology” (PNEI), the answer is quite clear: No! Solid evidence indicates that also *experiential* hurt or trauma can evoke inflammation [10]. Researchers in the neurosciences and in trauma physiology state quite unambiguously that the traditionally alleged schism between physical and psychological trauma is an illusion, an artifact of the biomedical dualist and reductionist frame of reference. There is solid evidence that host defense mechanisms respond in the same fashion to both [11].

Given that these responses are evoked by a broad spectrum of acute traumatization, what then about *chronic trauma*, such as being exposed to domestic violence, war, social crises, as well as other constant threats, such as a lifetime characterized by poverty, stigma, powerlessness, harassment, marginalization, suppression or exploitation? The answer is that all ways of being-in-the-world that are experienced as being continuously and existentially threatened, engender processes on the physiological level in the human body that affect the most central bodily systems for safeguarding viability and vitality [12, 13]. These include, among others, the hormonal, immunological and central nervous systems, the systems for regulation of glucose, lipids and minerals, the autonomous nervous system regulating sleep, breath, digestion, muscular tonus and body temperature. All these systems are affected, both separately and in their complex interactions, causing what now is termed *multisystem physiological dysregulation* [6, 14]. Typical patterns of diseases, representing particular clinical phenotypes, result from such multi-system imbalances. These constellations of complex health problems become very familiar to every GP. Typical patterns engendered by multisystem dysregulation – such as hypertension, hypercholesterolemia, obesity, diabetes II, depression, chronic pain and sleeping problems – characterize a group of patients that makes regular use of the health care system, consulting specialists and, even more frequently, GPs [3].

### **A personal portrait**

The condensed life story of the patient, Sonja Solberg (pseudonym)\*, provides insight into a life-world of chronic traumatization and its implicit pathophysiological logic. She tells the following:

“My father was twenty-five years old in 1940 when he was taken by the German Nazis in occupied Norway while he was distributing flyers. He was

sent to a concentration camp in Germany, along with my grandfather and my aunt. My relatives survived and were rescued by the Red Cross, but all three of them started to drink after coming home. This was before I was born. But as long as I can remember, my father was drunk almost every day. He could be violent when he was drunk, attacking my mother. He never touched me, however. He was like Dr. Jekyll and Mr. Hyde. When he was sober, he was calm, reading books. In those situations, I loved him. When he was drunk, he screamed and shouted commands. Then he was the boss and, ever since I was a schoolgirl, he called me a whore. On the other hand, I was Daddy's Girl, and he told me the stories from his time in the camp, how he was forced to collect the corpses and things like that. He used me as a container for all his bitterness and desperation. He made me his trash can. My whole life I've felt "not good enough", always afraid, always on guard, alert, always scared of what would come next. I've let many people step on me.

My first husband was an alcoholic, and also, as I slowly discovered, he abused drugs. He died of an overdose. I should have saved him, despite all the trouble he had. My next husband was also fond of liquor, but not like the first one, and I saw him as my savior from my loneliness and depression after my first marriage. But after many years, he left me for a much younger woman. I should have taken better care of myself, stayed more attractive so he wouldn't "stray". My youngest son was in trouble with drugs for some years. Certainly, I should have foreseen that when I left him to stay with his father and that younger woman – because I thought he needed to stay where his friends were. Anyhow, he's on the right track now, but I was on constant alert for many years because, several times, he was found drugged and unconscious."

One might say that, given Sonja's upbringing, she was fated to function as an untrained social worker for men who could not master their own lives. She attributed blame for every crisis or separation to her own shortcomings, convinced that she had not fulfilled her duty to save, counsel or console the men well enough. She states that this kind of life, filled with overwhelming tasks and duties, in continuous tension and constantly on guard, has "somatised" her – has resulted in bodily diseases.

### **A medical history**

Sonja Solberg has suffered repeatedly from severe depression. In addition, for the last

fifteen years, she has received treatment for vaginal hemorrhages, including countless interventions – surgery, injections, various medications – none of which resolved her issues of pelvic pain and bleeding. Not surprisingly, when she had her uterus removed, years before menopause, a chronic inflammation of her uterine lining was confirmed. By then, she had been diagnosed with hypertension, high blood lipids and diabetes II, and medicated with several drugs for each of these ailments, in accordance with the traditional assumption that each of these health problems represents a separate disease [15]. In addition, she had become morbidly obese, which compounded her other health complaints, increasing her joint pain and making it more difficult for her to regulate her diabetes.

It is self-evident that Sonja’s health problems, separately and, most certainly, cumulatively, endanger her life, putting her at risk of premature death. Obesity, hypertension, hypercholesterolemia, and diabetes are well-acknowledged, independent risk factors for cardiovascular diseases and stroke. In combination, their adverse impact becomes cumulative. Each additional medication she has had prescribed and administered over the years with the aim of preventing such destructive outcomes, has brought new problems and new dangers. Each of the medications she has been prescribed was tested separately – in Randomized Controlled Trials (RCTs), which strictly excluded persons with Sonja’s sort of multi-morbidity. There is thus no reliable body of evidence as to how her cocktail of drugs tends to interact in human bodies in general (presuming “general” bodies actually exist) much less in Sonja’s specific, lived body. There is solid documentation that reaction to poly-pharmacy, that is, to having taken multiple medications for presumably separate and different diseases – ranks among the top ten reasons for hospital admissions [16, 17]. This figure, or fact, is yet another artifact of the special interaction between two biomedical frameworks: reductionism, and, Evidence Based Medicine (EBM). A physician identifies a state of bad health defined as a disease entity, a health problem that in etiology, pathogenesis, treatment and prognosis is deemed to be clearly distinct from other states of bad health. She or he then prescribes medication based on the assumption that the recommended drug is the correct treatment for the specific “case”. Thus, the physician adds yet another medication, or even several more, to a patient’s pharmaceutical regimen, without having met any requirement for compliance with what most current medicine considers the foundation for medical decision-making, advice, action, and treatment to be:

evidence! In short, whenever a doctor prescribes two or more medications to *a particular person*, this doctor literally does not know what he or she is doing.

### **A problematic nexus**

Navigating the nexus of *multi-morbidity* (as a medical construct or even artifact), *causality* (with regard to “level” of origin) and *guidelines* (which are specifically designed for each disease) is among a GP’s greatest theoretic challenges, while also being among the most frequently occurring clinical requirements [5]. Further complicating this nexus is that the GPs’ performance is evaluated and judged based on adherence to guidelines as “the measures of all things”, despite the lack of relevant guidelines for their most common tasks – and despite the problematic nature of the many guidelines that do exist for treating health problems [18]. Designed primarily by specialists – for example, in neurology for the diagnosis Chronic Fatigue/Myalgic Encephalopathy (CFS/ME), or rheumatology for the diagnosis of Fibromyalgia (FM) – these guidelines are handed back to GPs along with patients currently suffering from these maladies. The GPs are then expected to follow those guidelines despite the fact that precisely those specialist-designed guidelines have already been proven not to work, having failed both as diagnostic tools and as treatment strategies when applied by those same specialists. One may rightly ask: why, then, should these templates be expected to work well in general practice?

Tenacious biomedical assumptions about human beings and human bodies engender a stepwise reduction, from: a *whole person* who encounters a person in the role of a physician, to a *patient* as defined medically, to that patient’s *parts* as in the medical parsing of the actual complaint. Crucial information is lost along the way. The transformation of a particular person into one or several defined disease entities in the same body provokes the alienation of this particular person from her or his life-world, imposing a “thingification” to serve such medical purposes as taxonomy and classification [19]. What is lost in translation may be nothing less than the most salient source of knowledge as to the origin or source of the particular person’s current health problem(s), namely the lived experiences that both ignite and maintain inflammation and other disturbances on the physiological level which provoke bad health and lead to premature death.

The prevailing concept of *causality*, derived from the master science of physics, may probably be applicable to inanimate nature, in other words to the “nature

of nature”. However, it does not apply to the nature of human beings. Supposing we were to replace physics as master science with biology, the science of animated nature or the living world, were we to continue to rely on the central criteria of causality to guide those master methodologies, we would have perpetuated the key obstacles to arriving at adequate knowledge about the nature of humans. Human beings are hybrids, both nature and culture. Thus, there is not one, single valid method to find the truth about their being, but several.

### **Good ideas, high jacked**

Two parallel developments are worth considering and analysing. One arose in the humanities, notably philosophy and literature, while the other in the field of medical science. Postmodern criticism and the subsequent repudiation of the idea of there being *One Truth*, paramount and authoritative, about the human condition, may be seen as having opened the door for the high jacking, so to speak, of its own core argument’s on-going transformation into the phenomenon called “post-truth”. Now, “everybody” can lay claim to the authority to assert *A Truth* about the state of the world, locally and globally. *One Authority* has been exchanged for Many Authorities, all of which start out requesting validation.

This development seems to mirror the trajectory of the protests of doctors and researchers against the dogmatic, authoritarian medical hegemony over how human sicknesses and their origins are to be understood and treated. Beginning by requesting validation, the movement of EBM has turned to demanding adherence, metamorphosing into yet another authoritarian regime, this one even more rigid than the last.

Philosophers and scholars of literature are now rightly concerned as to how the era of post-truth may affect people, societies and politics. Physicians and researchers at The Centre of Evidence Based Medicine in Oxford have also acknowledged that there is a problem. However, the concern they have is that their entire concept might be at risk as the critiques of EBM become ever more explicit, detailed, qualified and justifiable. Thus, at one extreme, certain groups in society seem to be comfortable with “alternative facts”, while at the other, the leaders of the EBM-centre declare that, while they are still right, their regimen does need some small adjustments in order to limit unforeseen, unwanted “side-effects” and unintended “spin-offs”, comprehensive though those may be.



In biomedicine, an approach conceptualised as *bio-psycho-social* has been introduced as the profession's response to the growing critique of de-humanised or de-personalised biomedical practices [20]. As its title conveys, the concept embraces three types of knowledge that are considered true within three disciplines: the *scientific* of biology, the *humanistic* of psychology, and the *hermeneutic* of sociology. Many clinicians claim to adhere to this model. Medical curricula, however, do not as yet reflect such adherence. Medical students are not offered systematic training in the theory and application of humanistic frameworks and methodologies, nor are they taught even the basic rules of hermeneutics, nor are these two disciplines ascribed an authority equivalent to that of the natural sciences. This implies that equity among these three frameworks as means for acquiring true knowledge is not communicated. The scientific frame of reference trumps the other two. Thus, the concept's name is misleading and its clinical application is pretence.

## **Conclusion**

Due to the continuing lack of scholarship among medical professionals in the humanities and in hermeneutics, the long overdue changes in medical research and clinical practice have not yet emerged. Medical professionals are socialised to think that scientific truth, knowledge grounded in the episteme of the natural sciences, is the most – or even only – reliable “ground” on which to base medical decisions. Within this frame of reference, only two stances are possible: materialism (everything is matter) or dualism (matter is separate and different from mind). These positions, however, leave no room for the most human of characteristics: humans are relational and social beings and creators and conveyors of meaning. Whenever these characteristics are marginalized, whether through methodological orthodoxy, pragmatism or disinterest, the resulting knowledge does not do human beings justice. Actions based on such grounds cannot but be ethically untenable.

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