Metaphorically transmitted diseases. How do patients embody medical explanations?

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Background. The examination was guided by recent theories on metaphors, holding that our conception of the physical world in many ways derives from personal bodily experiences. Such experiences are fundamental to the elaboration of abstract structures of meaning, which, through metaphorical projections, provide a constitutive role in our overall comprehension of the world. It is thus to be assumed that patients will bring their own cluster of metaphors into the consultation room to structure the doctor’s explanations. Our study was an attempt to identify some manifestations of this work of structuring and to learn about its consequences for interpersonal communication between patient and doctor.

Objective. The aim of this study was to examine how, and to what extent patients in a general practice understand pathoanatomical and pathophysiological disturbances as explanations of their illness.

Method. The empirical basis of the study comprised interviews with a group of patients from a general practice, who were asked to narrate their understanding of medical disturbances. Based on these interviews we identified and classified a number of metaphors they used to describe bodily problems and relations. A deviating mechanical understanding of the body, which we characterize as ethnomechanics, was manifest in all the interviews. This understanding is expanded upon and its significance discussed. Although patients do not feel qualified to understand scientific explanations of their health problems, they do relate to a scientific disease mode of understanding. They do not, however, relate to the fine details and professional implications of this mode. Instead they will associate medical explanations with their pre-established, illness-based system of understanding through imaginative projections.

Conclusions. Doctors need to be aware that patients possess such imaginative and experiential resources to make sense of medical explanations. Attempts to draw patients radically away from these resources may cause confusion and undesired breakdowns in the communication between them and their physician.

Keywords. Communication, experience, patient understanding.

Introduction

It is considered important for the physician and his patient to achieve a shared understanding of the problem in the consultation. This understanding should encompass not only the doctor’s interpretation of the patient’s complaints, but also the patient’s comprehension of the medical explanation provided by the doctor. What are the prerequisites for this understanding? More specifically, how do patients actually take in medical explanations, and how adequately are they able to integrate biomedicine's knowledge into their own experiential and conceptual systems of understanding?

It is generally accepted that a fundamental distinction exists between the patient’s everyday notions of illness and the medical conception of disease. What the patient comprehends is based on lived experiences, while the medical understanding essentially rests on conceptions of the human body and its functioning as ‘an object within a scientific framework’, a framework that represents an abstraction from lived experience. According to this distinction the patient does not normally experience a physical problem as a case of ‘disease’. Only when she conceives her body as an object (in Sartre’s terms: a being-for-others) does she see it as a malfunctioning organism or system. ‘Disease’,
mediated through the physician’s re-conceptualization of the patient’s complaint, represents this kind of objec-
tification; a process in which heterogeneous com-
plaints are turned into solvable problems.3

As the patient’s experiences are subsumed under causal categories of scientific explanations, disease is
classified as a specific kind of natural phenomenon and
can thus be observed independently of the person who
is suffering from the disease. The specific disease, when
detached from the particular patient, depends on im-
partial, medical decisions to be made and put into ac-
tion in the clinic. According to this distinction, patients
who seek medical help are predisposed to experience
their problems in terms of illness, which is radically
different from the physician’s interest in discernible
symptoms and signs.

Many studies over the years have analysed the dif-
fences between biomedical comprehensions and indi-
vidual lay perceptions of health problems. There is
broad consensus that scientific reasoning is not able to
encompass various qualitative aspects of health prob-
lems, such as suffering or personal illness experiences.
These experiential aspects are basically dependent on
subjective stances, and cannot be made objects of quan-
tified knowledge without loss of content. Experiential
limitations should not, however, be taken simply to
demonstrate the poverty of science-based conceptions
of health and sickness. No institutional body of
knowledge is able to grasp all aspects of the individual
patient’s health problems. Various scholars, with a
background in medicine and the humanities, have
argued against the inclination to represent scientific
medicine as nothing but institutional, impersonal
knowledge and unconcerned handling of patients. These
scholars find it more productive to try to bridge the gap
between the patient’s everyday understandings and the
physician’s science-based conceptions of disease.2,4–5
For this to happen, the involved parties will have to
realize how these divergent modes of understanding may
sustain or even induce untimely communication gaps.

In the communication process both doctor and
patients apply a number of linguistic means to organize
their respective comprehension, as well as to bridge
(some of the) constraints in their distinct modes of
understanding. Hence, for the two to establish a suc-
cessful communication, they need to talk about the body
and its (mal)functions in a familiar vocabulary. Each
will, ideally, attempt to convey sense to the other from
the standpoint of their own comprehension of body and
health, whether it originates in biomedical or every-
day systems of understanding. There are, in short, good
reasons to look for communication gaps between
patients and physician, in order to learn about the causes
and characteristics of these gaps. This may well show
that only a partial bridging is feasible, simply because
the different background conditions makes a truly shared
understanding unrealisable. Why should we expect
medical explanations to be more comprehensible to lay
people than for example economic or technical explana-
tions? Or conversely: why would we expect the physi-
cian to be able fully to grasp the personal fears, hopes,
or beliefs of his patient? If only partial understanding
is obtainable, it becomes even more important to iden-
tify some of the limits to a shared understanding between
patient and physician.

Inspired by recent work on the role of metaphors in
cognition and action, we carried out an empirical study
on how, and to what extent, patients take in medical
explanations as responses to their health problems. One
of our initial premises held that cognitive metaphors
perform basic, but largely ignored, functions in verbal
communication between physician and patient. Conse-
quently, it becomes significant to investigate how the
use and subsequent rendering of metaphors from within
two different structures of meaning may produce com-
 municative misconceptions.

Johnson and Lakoff’s cognitive theories of metaphors
are based on the notion that words are arbitrary symbols.
They only gain (relatively) fixed meanings because expe-
riential individuals relate them to physical reality.7,9
Many basic conceptions of the world are thus tied up
with personal bodily experiences, which then become
fundamental to the elaboration of abstract structures of
meaning and patterns of thought. Metaphorical projec-
tions are pervasive principles of understanding that con-
fer constitutive roles to such patterns and structures.
Without them our overall grasp of the world would be
severely chaotic.

Metaphorical structures are extensions of what
Johnson calls image-schemata, i.e. non-propositional,
dynamic, and abstract patterns in our understanding and
experience, that are of central importance to all reason-
ing and inferences we make.4 Without metaphorically
extended image-schemata there would be no coherence
and consequently no internal logic to our understanding.
In Johnson’s own words, are metaphorical systems of
understanding "... sufficiently rich in internal struc-
ture to generate definite inferential patterns. Reason-
ing based on metaphors ... is neither arbitrary nor
unstructured."8 We will thus assume that ordinary
patients with somatic complaints base their accounts of
the body and its medical condition on an internal logic,
i.e. inferential patterns with capacities to fulfill their own
standards of coherence.

In sum, this metaphor-based approach to interpersonal
communication holds that imaginative projections are
crucial to the individual’s overall world view, because
imagination is a precondition for relating otherwise
abstract symbols to lived world experiences. It follows
that an analysis of human communication must trans-
cend the linguistic context, in which only words and
sentences are considered relevant. The broader analysis
will also have to include physical and experiential
dimensions of living, in order to unveil the significance
of the body for conceptual formation and development. Metaphors are not just ornamental decoration on literal meaning. They are preconditions for understanding, because they help to sustain a basic coherence and logic in our understanding.

In the consultation all this would mean that personal, bodily experience and background knowledge constitutes the semantic structures into which any medical explanation is conveyed. If that proves to be the case, the potentials to understand and embody medical explanations will depend on basic experiences in the individual patient, i.e. how she associates images gained from medical explanations with personal experience and knowledge of the world.

The aim of the study was to examine how, and to what extent patients in a general practice have grasped pathoanatomical and pathophysiological disturbances as explanations of their illness. The background assumption was that they use metaphorical structuring to embody the medical explanations. Consequently, we expect this work of structuring to show in the interviews, and we thereby hope to exhibit the relevance of a metaphor-oriented analysis of interpersonal communication. Some studies\textsuperscript{6} discuss how certain metaphors are deliberately (mis)used to put blame on someone for the spreading of disease (like AIDS), just to keep the real issues at a distance from the public. Our aim is somewhat the reverse, i.e. we wish to learn how patients apply their own 'home-grown stock' of metaphors to make sense of medical explanations.

Methods

The patients for the study were selected from a Danish general practice. The study mainly included patients in whom somatic problems such as arthritis, arterial hypertension and heart disease were anticipated. Every week two patients in the consultation were videotaped. After each consultation the tapes were reviewed by the GP (CEM). If the consultation was mainly about somatic problems, the patient was asked to participate in an interview about the content of the consultation. Eight patients were included in the study.

All subsequent interviews were executed by the practitioner, and audio tapes containing the interviews were transcribed. The transcriptions were initially reviewed independently by the two authors. All passages and expressions in the text that either expressed or implied the patient's understanding of pathological processes, relations, and states in the body were marked. The marked passages and expressions were then compared by the two authors and coded according to a scheme inspired by Johnson's schemata-based structures of understanding.\textsuperscript{6} Tentatively, we kept the hypothesis that the patients' understanding could be subsumed under one of three categories: physical understanding, biochemical understanding and non-physical/non-chemical understanding. During the coding process the scheme was gradually expanded with subgroups. Because nearly all accounts by the patients fell into the category of physical understanding only this category was subdivided.

Results

It soon became clear that the interviewed patients commonly used technical metaphors to narrate their understanding of medical explanations. In the following we will exemplify this tendency with quotes from the patients. Most of the examples are linked with the cardiovascular system, but other bodily domains and relations are included to illustrate and represent our findings.

Pump and pressure

When speaking about the heart a basic understanding, in terms of technicality, was especially striking. It was common knowledge that the heart produces a pressure which, somehow, forces blood through the body:

P4: "It is the heart—it must be the valves—it must be something about it pumping."

P5: "First and foremost it [the heart] has to pump the blood around the body."

On the face of it, such statements by a patient might indicate a fair understanding of the role of the heart as a pump, which perhaps tempts the physician to think he and his patient share some knowledge about pumps and pressure. However, when asked for details about the pumping function and the notion of pressure, the patients' accounts did not endure, if measured by medical standards. They either claimed plain ignorance or came up with rather deviating conjectures about mechanical principles:

P2: "... it is somehow the heart that drives it [the blood] around, isn't it? ... takes it along and drives it back again. But I don't know. It is just something I believe."

P5: "But I can't find out. Don't ask me about that [what is blood pressure?], because I happen to have that idea that the heart, it sends out the blood, and I imagine a pressure in the system of veins ... Inside the veins that pushes the blood back ... to the heart."

Hence, even when the shared understanding seems most evident, it may rest on an all too loose foundation of suggestive terms.

Directions

Notice how different assumptions about direction played a part in the above statements. From the location of the
heart the brain is ‘up’, and the body is ‘out’; i.e. the heart is centre and the rest is periphery. This points to the patients’ experiences of the body as a system in space, where parts are related through their mutual physical positions:

P4: “[The blood] runs through the heart, you see, most of it. And it is pumped out. But there’s got to be a place—first it passes through up in the brain, doesn’t it? Or does it come all the way out, I just don’t know. If it ends in the brain or it comes up—no, perhaps you have veins out in all directions, so it is pumping everywhere.”

P1: “[The blood vessels] lead the blood out, for instance, to that finger tip there. And if it doesn’t do that I get cold out here.”

P2: “Yes, it [blood] has to go out in the veins again. It has to go back again, hasn’t it?”

This profoundly physical mapping of bodily processes may easily cause some confusion, if it is considered that medical explanations rely more on biochemical compounds than on spatial location.

Transportation and circulation
Different metaphors of transportation and circulation were used to describe processes and changes, either inside the veins and arteries, or more vaguely, in the body. We found, however, that metaphors of transportation are deceptively simple; the problem is that the patient may talk about the transporter, what is transported, and the transport path, without making clear distinctions between the three:

P1: “So I just think it [the blood vessel] perforates. I don’t think it breaks in two. I think it perforates... Then the blood leaks out, and it—either the blood finds another path or it closes up. Yes, that’s what it does, closes up, and then it finds another place.”

P1: “They [vitamins] are food for—they are food for—well, those organs we have inside ourselves, which are to take the food we are eating out in our veins and wherever else it can run.”

P5: “And then it [soup] runs down into the gullet and somewhere turns down to the stomach...”

Notice that, if one takes physical experiences as background knowledge in the accounts, there is a logic in the quotes above, an inferential pattern; and as long as the accounts are not tested too rigidly against unfamiliar standards, like biomedical criteria, they will remain coherent to the narrator.

The transport metaphor conveys a wide range of physical images about bodily functions that makes perfectly good sense, if seen in isolation. For instance, it may be tempting to understand blood clots, based on the image of a road block:

P5: “But there could be some blocking somewhere or other... I don’t directly think about blood clots, but there could still be some—yes, it probably has to be, initial limitations in those—that is the small blood vessels, yes, which more easily can close entirely or partly.”

Another patient described, in similar terms, the significance of low blood pressure:

P4: “Probably it is because it pumps—there is not enough passage; thus it doesn’t push—the blood gets stopped somewhere, you see. And then it can’t slip out.”

Inflammation may also be understood on the background of road obstacles:

P3: “[It [inflammation] may function a bit like if you have sores or abscesses or something—you may say, it doesn’t pass fast enough, and then it accumulates or so, in some way or other.”

Container
In the above quotes about transportation there was, by biomedical standards, some confusion with regard to the transporter, the transported, and the ‘surface’ of this traffic. That confusion may be related to another outspoken tendency in the patients’ physical conception of the body, namely, to see the body and its organs as containers, i.e. empty or full, low or high, spacious, with an inside or outside, strong, weak, tight, leaky, etc.

P1: “...if I don’t get the right things [vitamins], then I get fragile everywhere, that is, where it otherwise should be firm and stiff and so on.”

P1: “I believe it is all connected [the cardiovascular system]. And when you stop here, then it [the blood] moves round, and then it stops here, and it gets no further, and when you let go, it continues. I don’t know if it moves that way and goes on down and down... and then it goes up. Or if it moves up more directly. I don’t know. In any case, sooner or later on the way it has to move up there.”

Another patient explained a swollen leg using a container image:

P4: “I guess it is because there is no—that the circulation is—that it is not good enough, the circulation. Hence, it can’t quite reach the bottom... then the water appears. It is the water that causes the swelling, isn’t it?”

Later the same patient wondered how medicine gets into the blood:
P4: “I have never really been able to work out how something you took down through there, how that was able to get into the blood.”

Perhaps more significant was that non-physical entities such as numbers were also assigned spacious properties:

P2: “... but I must admit to being rather surprised, because—wasn’t it [the cholesterol number] up at 8, or how much was it? ... Was it almost 9, and then gone down to 6? I think that is good.”

P5: “Yes, so the blood pressure isn’t down, where it should be.”

P5: “It varies quite a lot. It has admittedly been up there, from where we would like to get it down.”

The mechanical body
As the above notions of pressure, transport, circulation, and container illustrate, the patients strongly relied on physical and technical conceptions to narrate their understandings of body and health to the doctor. We think this reliance can be encircled by the metaphor: “the body is a mechanical system.” We do not believe, however, that the expressed conceptions of the body depend on classical mechanics in any strict sense. Rather, we found that the patients applied mechanical images and relations in a pragmatic fashion, and often just implicitly. Hence, we will call theirs an ethnomechanical understanding to distinguish it from classical mechanics as it is formulated, e.g. in physics. This is not to position the two in a hierarchical relationship. Rather, it is to stress the point that, if a communication study remains on a purely linguistic level of analysis, this may suggest that patient and doctor are in broad agreement, while in fact they understand and mean different things by the same terms.

Ethnomechanical means of descriptions were applied in different ways by the interviewed patients, depending on the content of their accounts. Some patients employed their knowledge of pumping when trying to account for what makes the blood return to the heart:

P4: “Well, that must simply be that, while it [the heart] pumps, simultaneously it sucks from the other end.”

P4: “But there’s got to be a return pipe somewhere, which is capable of pushing it back again, hasn’t there? Because the actual pumping; that is the same. And it should be the same. So that it is able to push in those valves. Because it has to go up through the heart again, yes. And then it must come out—but there has to be an equal pressure that way up. Because I don’t think the arteries pump all by themselves.”

P5: “... it’s a little difficult for me to grasp, how does it come back again, but I do know a little bit about that, if anything, it is pressed back, isn’t that right?”

P5: “But here it is that I may guess a little, because there must be a system that pushes the blood back. But how it comes from the big veins. ... From the arteries and up, that is difficult for me. But there must be a system which presses it back, a vacuum or—I can’t really know.”

Another patient explained the effect of fish oil in clearly mechanical terms:

P1: “The fish oil helps lubricating ... the joints ... Yes, it helps lubricating the stomach and the intestines and then the joints. I believe so.”

Although this explanation, medically speaking, is false, we think it is important to understand that, to the patient, it is a consistent, mechanical account of some relationship between malfunctioning joints and an intervening liquid.

Causality
As in classical mechanics, the ethnomechanical understanding not only involves ontology, e.g. ‘what is the body made of?’ It also involves causality such as ‘what causes the blood to circulate?’ While classical mechanics entails unambiguous, compelling relationships between well-defined entities or systems, ethnomechanics, as defined here, does not oblige the user to remain true to rigorous relations of cause and effect. Rather, ethnomechanical causality is a pragmatic principle of regulation that allows a person to maintain an orderly world with the help of everyday, common sense experiences about the ways things are usually connected. This underpins our premise that people in ordinary situations rest their reasoning on a logic of internal coherence. The ethnomechanical causality was stated in many ways:

P4: “It is the water that causes the swelling [in the leg], isn’t it?”

P6: “So I can easily get that weight down again, right away, if I want to [by starting to smoke again].”

P5: “I’m clear that the tablets, they influence this, and surely they will get my blood pressure down to 90-95.”

P4: “No, what works mostly on me is that the circulation has got something to do with the heart. And it is that which pumps it around. ... I would think that if I got some blue legs or something else, then something was wrong with my heart, isn’t that so?”

One patient was asked to tell about the effect of her medicine:
P2: “But I don’t know. I don’t think it is easy to figure out, for such a small one [the tablet] every evening, that it can break it down, the cholesterol number. I think it is fantastic for those ones.”

This last patient obviously saw the tablet as a discrete, finite entity with certain causal or functional powers. Her basic interest—to “pull down” the cholesterol number—was satisfied by the effect of the “small one”. Hence, she had established a satisfying causal relationship between a certain tablet and a specific numerical value. The relationship appeared fully consistent to her. She continued: “There must be something in that tablet that pulls it [the cholesterol value] down. Otherwise I don’t know what to think of it.”

Arguably her immediate interests were expressed in that relationship, which implies that whatever happened in between tablet and the numerical value was uninteresting to her. As long as she sticks to the causal linking of a tablet with a certain number, all relevant aspects of her medical problem are fully accounted for. This also stresses the significance of differentiating between ethnomechanical and classical mechanical conceptions of causality. The important thing to bear in mind appears to be that, if there is a mechanical understanding, there is also a causality involved, and that causality is only as rigorous as the given mechanical understanding allows for.

The ethnomechanical system

Having positioned the patients’ understandings within an ethnomechanical taxonomy, we became aware that they frequently differentiated between themselves and their body, that is, between the ‘I’ and ‘the body/organism/system’. The body was often delegated an almost autonomous status in relation to the narrator:

P1: “I leave that to the organism itself to work out [how fish oil is distributed throughout the body]. I just know that a process happens down there, doesn’t it? And then it gets out.”

P3: “But it has to be some muscles that somehow control it. The large intestine certainly is a strange crooked fellow . . . So one could imagine that there are some muscles that control it.”

P5: “I just can’t work out why the heck there is an extra beat. The nervous system does control it all.”

P5: “It is also the nervous system that says: raise the hand now. What comes first is always open to discussion, but it is the nerves that govern it. I know at least something about that. Or they govern all movements.”

Dualism

The relative autonomy entrusted to the body indicated that the patients maintained a certain mind–body dualism. This was expressed in different ways:

P2: “I’m all right as such. All I’m saying is that my knees wanted different from what I wanted. But they will not.”

P1: “And it is not always that it [the body] puts up with what I get. Reacts differently from what I expected.”

Another patient explained in dualistic terms why it was important for the brain to get enough blood:

P4: “Because that is where the whole centre is placed. It is a power centre. Yes, it is a computer centre . . . it is it [the brain] that makes me do like this [gestures with the hand] and so on.”

Responsibility

The really thought-provoking aspect of our findings is that, at the bottom of it all, the patients did not seem especially interested in receiving, or providing, detailed explanations of their health problems. Apparently this has to do with who (or what) they consider responsible for the bodily functions:

P1: “I leave that to the organism itself to work out [how fish oil is distributed]. I just know that a process happens down there, doesn’t it? And then it gets out. But it has to—I also often think about those ones—it must be some very intelligent tablets, that are able to find their way out to those places where you hurt, isn’t that right?”

P3: “Yes, it is strange, but I have often wondered about that [how a tablet is distributed], how the heck it is able to find out to where it is meant to do good.”

During the interviews all patients frequently gave inconsistent accounts of bodily functions and states when measured against biomedical standards. They did not seem to find it important to remedy these apparent shortcomings. Neither did they express any need for detailed information about the body and its functions.

Some of the patients were asked if they ever considered how a blood sample can tell something about their health:

P2: “You do that, but you can’t really—you can’t really unravel that yourself—what it is, can you? Because you are not qualified to find out about it. Except telling yourself that one can learn just about anything from such blood samples.”

P3: “. . . one knows that today you can see incredibly many things in a blood sample. Today, there is almost nothing that needs to be cut, and so on, because of the blood samples. They show so many things.”

The same patient was then asked how results are extracted from a blood sample:

P3: “I just don’t know. Presumably that is something you can measure; one way or another
... one is not really qualified to know, is one? Because one may think that it is something like that; but how it is measured afterwards, if it—I think it is difficult to know about that.”

Some patients were asked to describe the effect of tablets:

P3: “Yes, that is difficult to know. It really is difficult to know. Because today you can get tablets for all sorts of things. And I have indeed often wondered how they are able to find their way to where they work. But that really is peculiar.”

P4: “I don’t know how it works. I can’t say, because I don’t know those substances, that are in that kind of tablet. But there’s got to be something that works. Just that you take it in that way, and then it has to work its way down to there—I think that is more that enough. It gets into the stomach and that way down, doesn’t it? ... it gets into the blood somehow, and is circulated, and then it works. I just can’t understand how. There is something there; what you get into the stomach, gets into the blood. I think that—it does not really harmonize, but it has to be right.”

Discussion and conclusion

The results of this study are the outcome of interviews with a number of patients made by their own family physician. This means that certain contextual and psychological bonds were pre-established, e.g. the physician was regarded as the professional on the issues at hand; the patients had certain expectations about the type of answers to give, etc. Had the interviewer been a non-physician, the answers would have been different. We think, however, that the pre-established relationship between the interviewer and his patients made him able to get closer to the individual patient than would have been possible for an uninvolved interviewer. It should also be remembered that the results stem from interviews with Danish patients having fairly uncomplicated somatic problems. The tendency, we found, to use primarily mechanical terms should only be related to such patients at this stage. Additional work is needed to learn about the full extent of this economy of understanding in medical patients.

The empirical results support our hypothesis, that patients with somatic problems will apply a range of structuring metaphors, based on their own experiential past, to grasp medical explanations. When they try to understand the physician’s explanation of what is going on in the body, they trust their personal systems of experience to organize and embody the medical explanations, thereby making these explanations accord with their own ordinary grasp of the world. Our findings further revealed that the interviewed patients were inclined to use mechanical principles and machine-like metaphors to organize their comprehensions of medical explanations.

On the face of it, the body as a mechanical system seems to be a useful metaphor to mediate between patient and doctor. Knowingly or not, we in the western world are constantly adapting to mechanical principles through school, work, hobby, media, etc., and our daily language abounds with mechanical terms and phrases. All such practical, social, and cultural experiences, associated with the workings of mechanical systems, seem to confirm that systems of mechanical metaphors are particularly well-suited to constitute a shared frame of communication between patient and doctor. Most people are familiar with, or can make sense out of terms like ‘high blood pressure’, ‘rise in temperature’, ‘heart valve’, ‘blood circulation’, ‘tubes’, ‘corpuscles’, ‘blockage’, ‘ball and socket joint’, ‘motor pathway’, etc. What our findings suggest, however, is that patients do not aim to bring their understanding in accordance with medical textbooks. The interviewed patients rarely took law-abiding consistency and methodical exposition of fine details to be important. Arguably, they used ethnomechanics, including ethnocausality, as nothing more than practical means to structure their understanding of biomedical accounts, i.e. to make sense of medical explanation.

Our findings showed that patients hold a basically physical conception of the body and its functions which is different from the profusely biomedical conception held by physicians. The latter will structure mechanical explanations using their formal training in biomedicine, while the former will seek to tailor mechanical explanations to their pre-existing, ethnomechanical understanding of such principles.

The findings indicate that the much criticized machine-like model of the body resides perhaps less with physicians than with patients. Although a machine model of the body is inadequate to secure a genuine understanding, that does not have to concern the patients. The ethnomechanical understanding tells them all they need to know about the biomedical aspects of their bodily problems; the rest is best left in the hands of health professionals.

The ethnomechanical understanding of bodily dysfunction makes people seek medical help because they know that it is possible for specialists to intervene in a mechanical system. The body, like any physical system controlled by mechanical principles, is (literally) open to mending, repairs, fixing, adjustments, etc. In such systems it is possible to identify the physical cause of any deficiency and, consequently, to remove it. Because they consider mechanical problems to be mendable, these people will frequently meet their doctor with unrealistic expectations. The notion of the body as an intervenable, physical system might not exist as an
explicit image in patients; more likely it resides as a loose, underlying idea. This basic ethnomechanical understanding opposes other systems of comprehension, in which notions of direct intervention in the body will be overshadowed by spiritual and religious ideas about God’s punishment, or about bad spirits possessing the body, etc.

Based on these reflections we can agree with phenomenologists such as Toombs,2 Casells,13 and Baron;14 in general patients approach their health problems with an illness attitude as opposed to a scientific disease model. Our findings suggest, however, that patients actively relate to, and make sense of the disease model, not least by applying ethnomechanical means of understanding. Although they do not feel qualified to relate to the fine details, and professional implications of the model, they will try to tailor the medical explanations to their own systems of understanding. Consequently, it will be a mistake simply to take a linguistic distinction between illness and disease as a clear-cut split between patients’ and doctors’ mode of comprehension. Although their economy of thought was biased toward an illness attitude, patient can also relate to a disease mode (as can the physician to illness).14

It would follow that attempts by physicians, no matter how well meant and meticulous, to offer scientific explanations of pathological processes do not match desires in patients to become better informed, or better able to cope with their health problems. Just as, for instance, detailed knowledge of the internal operations in electronic computer equipment is incomprehensible to most users, it may be with lay people’s ability to understand detailed medical explanations of bodily functions and disturbances. Neither the computer user nor the patient may find such knowledge relevant, not even when the system breaks down.

Everybody has expectations, background knowledge, and bodily experiences; and according to Johnson and Lakoff, imaginative projections is a precondition for relating abstract symbols to such lived world experiences. These elements constitute the semantic structures into which any medical explanation is conveyed. The potentials to understand and embody medical explanations thus depends on basic experiences in the individual patient, i.e. how they associate abstract images contained in a medical explanation with personal, embodied experience and overall knowledge of the world. Hence, what may seem a confused understanding from a biomedical stance, can well be a consistent correlation of information within an individual patient’s own systems of understanding. Trying to draw patients away from such systems will probably cause confusion and breakdowns in the communication between them and their doctor.

Many patients do not need fine-grained biomedical information. What they need are explanations about their health problems that involve everyday life world experiences.2,13 In the consultation room they will employ metaphorical projections to associate the explanations with their life and concerns: What is wrong? Why did it happen? What does this all mean to me? When will I be cured? How will it influence my life? Doctors have thus to be aware that patients possess their own imaginative and experiential resources to make sense of medical explanations. Hence, the further the content of the explanation is from the patient’s own embodied experiences, the less is the chance of a shared understanding.

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