

8. Consensus and Community

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Comminding

You can refer directly to *experiencing* – you can point to it, with the help of words such as *this* – but in conversation, you can never be sure that someone else has ‘got the point’ of your pointing. Instead, you tend to assume by default that you and your partner are both attending to the same object, and that the symbol uttered now will generate an interpretant sign for that same object. Just like taking turns, this is basic to the language game. When something happens to call the default assumption into question, it can trigger a process of probing or inquiry which may reveal habits, beliefs, intentions or objects of which you were unaware, or may open up cracks in the consensus you thought you shared. But inquiry itself stands and moves on a ground of implicit consensus: when this ground is quaking and cracks open up in it, we find a way to fix them, or move on to ground that feels firmer – or else the dialogue collapses, taking all inquiry with it. We hope to find the common ground that no experience will shake, but we can’t say for sure that we’ve reached it while the unknown future continues to present itself in experience.

In the meantime, those with whom you would communicate

must inhabit the same semiotic space as you: 'the common stock of knowledge of utterer and interpreter, called to mind by the words, is a part of the sign' (Peirce, EP2:310). Peirce refers to the mind which shares this common stock as the *commind* or *commens* (EP2:478). Individual minds participate therein to the extent that they share a 'joint attentional frame' (Tomasello 2003).

'The social principle' introduced in Chapter 2 entails that *speaking the truth* means speaking *from* experience to a community, with the ultimate purpose of reconstituting its habits to be better attuned with the rest of reality. In the sciences at least, it means contributing to an inquiry which, if it could be continued indefinitely by the whole community inquiring into the matter, would reach the ideal consensus we call 'the truth.' That ideal consensus represents the final cause of honest inquiry. If we knew we had attained it, inquiry would cease. It would also come to an end if we gave up believing the truth to be ultimately knowable. The ideal of 'truth' remains a real part of our collective guidance system, necessary for its subsistence and growth.

The other(s) to whom you speak must share an understanding with you, however vague; and everything said is intended to *modify* that consensual understanding, to carry it further toward the full-grown truth. Peirce again: 'an entirely new sign can never be created by an act of communication ... the utmost possible is that a sign already existing should be filled out and corrected' (EP2:328). Even artistic expression intended to create a whole new experience for the audience has to work with (and against) habitual modes of expression, or 'codes' as they are sometimes called, to evoke a universe which is imaginable, however unfamiliar it may be. When it works, the experience is genuine, and in that sense *true*, regardless of its relation to the author's intention. Such a sign reveals its object to the interpretant as a *real possibility* – thus changing the communal consensus about what is possible.

Creative arts, revelations and scientific methods alike appeal to experience/experiment in order to remake the current consensus. This often involves 'fixing' beliefs or habits whose living connection with reality has been 'broken.' Such beliefs may have become so tightly woven into the cognitive web that they are no longer subject to regular reality checks. The web or bubble thus woven may come to include collective delusions – but no community can

simply or summarily dispense with it. The cognitive web is the context necessary for any prophecy or proposition to make sense in the public domain. Indeed, without it, we don't have *anything* to talk about.

Thinging

The word *thing* derives from a Teutonic root which originally denoted a 'public assembly' (OED) – a feature of English etymology which suggests a more general hypothesis: that any universe of linguistic discourse is furnished with objects recognized as real by public consensus. As Maturana (1978a, 56) put it: 'Human beings can talk about things because they generate the things they talk about by talking about them.' But this refers to the *immediate objects* of our talk-signs. The *dynamic objects*, on the other hand, exert their influence (typically through perceptual media) by *constraining* what we can honestly say about things. If everything depended for its existence on our talk about it, there would be no inductive logic, no way to test our guesses against experience. Before we begin to talk or think about them, i.e. to represent them, percepts *present themselves* to us independently of our intentions. But if our cognitive processes did not represent the objects of perception as *things*, no hypothesis about their nature could be framed in the first place. The framing of such a hypothesis, called by Peirce a *perceptual judgment*, is not under conscious control, but is the beginning of reasoning.

Empirical sciences test hypotheses by making *experiments* which pose very specific questions to Nature, and we try to make sure that the answers we get through observation are strictly relevant to that very question, 'by creating, at will, artificial conditions that either exclude, or reduce to zero, all the interfering and disturbing propensities' (Popper 1990, 23). This kind of experiment is experiencing with a very tight focus, and its very tightness makes it possible for multiple observers to replicate the observation. This applies even to observations in the wild, far from the laboratory, such as the study of social behavior among primates in their natural habitat. All experience is 'subjective' in the sense that only a living system as experiencing 'subject' is

capable of or susceptible to it; but scientific method tries to minimize interference from any idiosyncrasies of the experiencing subjects by restricting observation to the consensual realm.

This method also ‘freezes’ the consensual frame of the inquiry, insulating it from ‘disturbance’ by the reality external to it. The ‘artificial conditions’ created for the experiment, including the instruments of measurement as well as the rest of the apparatus, are made up of things we count on to function predictably in order that some *other* prediction can be tested. If we wanted to test the reliability of the instruments, we would have to count on some *other* instruments to be reliable. We have no special instruments by which we can test whether ‘things’ really are what we think they are; that kind of question is “empirical” only in the sense that the testing ground is the common stream of experience pouring over us all every minute.

According to Michael Polanyi, the set of *implicit* beliefs which frame the testing of any hypothesis cannot be asserted or even made explicit, at least not during the process which they frame:

... the actual foundations of our scientific beliefs cannot be asserted at all. When we accept a certain set of pre-suppositions and use them as our interpretative framework, we may be said to dwell in them as we do in our own body. Their uncritical acceptance for the time being consists in a process of assimilation by which we identify ourselves with them. They are not asserted and cannot be asserted, for assertion can be made only *within* a framework with which we have identified ourselves for the time being; as they are themselves our ultimate framework, they are essentially inarticulable.

— Polanyi (1962, 60)

When we speak of a ‘scientific consensus,’ though, we usually refer to an *explicit* belief jointly asserted or accepted by everyone working within in the field. How does a specific assertion get incorporated into that body of consensual belief? As Polanyi points out, ‘nobody knows more than a tiny fragment of science well enough to judge its validity and value at first hand. For the rest he

has to rely on views accepted at second hand on the authority of a community of people accredited as scientists.' This community is constituted by a network of 'mutual recognitions' (Polanyi 1962, 163).

When we say that experience is our only teacher in science (meaning the public process of inquiry), we don't mean that everything a scientist knows is based on her own first-hand experience. We mean that science is the public 'proving ground' where belief collides with reality, or guess collides with observation, and *experience* is what shows us whether a belief can survive the collision. If the scientist has to rely on the authority of a community for his knowledge of the scientific consensus, he must also rely on it for the 'common-sense' knowledge which he shares with a broader community – as we all do, for the most part. Why bother to question or prove what "everybody knows"?

Where do our beliefs come from in the first place? How much of what you 'know' about the world is based directly on your personal experience of it? If a little reflection isn't enough to answer this question, consider the following Mark Twain anecdote, as recounted by Popper (1989, 557):

On his first appointment as a reporter, he tells us, the editor of the newspaper instructed him never to report anything unless he could *verify it or confirm it by personal knowledge*. So he described a social event as follows: "A woman giving the name of Mrs. James Jones, who is reported to be one of the society leaders of the city, is said to have given what purported to be a party yesterday to a number of alleged ladies. The hostess claims to be the wife of a reputed attorney."

Most of the everyday beliefs that you can reflect on (because they can be expressed verbally) are not based on your own experience but taken on trust. Even in the most rigorous of the sciences, one person's belief in the truth of a hypothesis or theory is based mostly on *testimony*, i.e. on other people's reports of *their* direct experience. The more consistent these reports are with each other, the more they are trusted to represent what really happens. This is why science is a social enterprise: observations must enter

the public domain in order to count as reliable evidence. Everyone's 'personal' belief system is equally social, and differs from a scientific consensus only in the standards of reliability applied. None of us have the time or opportunity to rigorously test many of our common beliefs against our own direct experience, and few of us even have the inclination to do so, or to critically examine the real connection between those beliefs and *anyone's* experience. It's much simpler and easier to take things on trust.

Inhabitation

Every means of expression used in society is based, in principle, on collective behavior (in French *habitude*), or what amounts to the same thing,—on convention.

— Saussure, as quoted by Deledalle (2000, 111)

You are involved in the human dialogue because you share a common biological organization (or 'nature') as well as a semiotic habit-system (or 'culture') with many others: thus your guidance system is synchronized with theirs. All humans inhabit the same Umwelt or experiential space, though each habitant lives its own way through that common space, in its own time. We share that space partly because we all live at the human scale in the holarchy we inhabit. Yet the qualities of human feelings are intimately related to the constitution of the human body by cells which have lives of their own (Damasio 2003, 129; Freeman 1999a, 51). This makes it unlikely that anything analogous to human experience could take place in an artificial brain/body, *unless* it too consisted of self-organizing subsystems. But in that case we might hesitate to call it 'artificial' ... and in any case, how could the imputation of humanlike experiencing ever be tested empirically?

Can you even demonstrate that *your* experiencing is similar to your sibling's? You can each report your experience verbally, and we can compare the reports. We can compare your behavior in similar situations. A suitably equipped and trained observer can report on various aspects of your brain activity, or your sibling's. All these reports can be compared and correlated. But how does all this relate to your actual real-time experiencing? Nobody knows.

We tacitly assume that there is some connection – we can hardly do otherwise. Common sense tells us that all these observations and reports are connected with your experiencing in some way, while also being external to it, and thus furnish various perspectives on it. This common sense is the necessary basis for *any possible* scientific theory, or even observation, concerning the physical, biological, psychological or sociological substrate of experience. Although it is the duty of scientific logic to criticize common sense and correct it (Peirce, EP2:167), it can do nothing without some ‘of course’ to correct.

You may recall from Chapter 5 Peirce’s remark that he had never ‘entertained a doubt that those features of the phaneron that I have found in my mind are present at all times and to all minds.’ Entertaining such a doubt would render phaneroscopy impossible. Likewise, all scientific inquiry rests on the implicit assumption that we share a common ground of experience, so that i can learn something from your perspective on it and vice versa. What we call *communication*, the actual making-common of thought, perception or feeling, is based on our implicit *empathy*, or mutual ‘feel’ for what we already share. Of course this feeling is fallible. We have a strong bias toward expecting others to be familiar with public knowledge which is familiar to us, and this gives rise to what Clark (1996, 111) calls ‘the *false consensus effect*.’ Yet we have no choice but to work with (and against) the implicit consensus. A symbolic communication – whether it creates a fictional world, or claims to speak for God, or represents somebody’s attempt to bear factual witness or speak the general truth – addresses that consensus for the purpose of modifying it, *turning* it into a better guidance system. That’s what dialogue is for; and dialogic is not limited to humans – these semiotic principles are universal, as they apply ‘to the universal phenomena of experience,’ and we aim to discover them by means of ‘such observations as *must* be open to every intelligence which can learn from experience’ (Peirce, CP 3.428, 1893).

What about larger-scale entities composed of humans – corporations, communities, cults and so on? Does one of these inhabit its own experiential space? Could it be that humanity itself – the vast Body of which each human bodymind is a member – has its own experience? And what about a wider dialogue, between

beings constituted differently? Is there a more universal *common sense* beyond the human version, one in which all living beings participate? And even beyond that, is there a deeper logic that must inform all *possible* semiosis? For humans, empirical investigation of hypotheses like these can never exceed the limits of experience, which happens to humans only at the human scale. Indeed it's only on that basis that we can even imagine an alien form of life or a bodymind of higher (or lower) scale. By the same token, though, how can we know that the limits we now imagine are the real limits of our knowledge? If they are real, any fear of exceeding them is groundless, and we can know them only by running into them.

Self-organizing

The scientific quest for a deeper, more common sense includes the study of self-organizing systems introduced in Chapter 3. According to autopoiesis theory, organisms maintain their stable *organization* in a fluctuating world by constantly changing their own internal *structure*. An observer then sees the *behavior* of the organism as an expression of its dynamic internal restructuring, *and* as a response to relevant changes in the environment, *and* often as a cause of further changes in the external world. Thus the inner dynamic is coupled with the outer, overt dynamic so that each *makes a difference* (or *means* something) to the other. Maturana and Varela called this *structural coupling*, but Metzinger (2003, 368) prefers to call it *functional coupling* because it links processes and not static 'structures.' When the coupling of internal and external changes is successful, so that the organism thrives, the observer can say that the organism is *adapting* to its environment. If the adaptive pattern is *remembered* and reproduced, we can refer to this as *learning* in the case of an individual, or *evolution* in the case of a species – both examples of the universal tendency to 'take habits,' as Peirce put it.

A plant, for instance, can 'remember' how to turn its leaves toward the sun or how to reach deeper with its roots when water is scarce. Animals with nervous systems, of course, can respond much faster to changing circumstances, and thus carry on a much

more intricate dance with their environments and with each other. Yet another and greater leap is taken by animals who can remember, or imagine, some steps of the dance even in the absence of the circumstances which normally evoke them in 'real time.' Here begins the *virtual* world of choices, planning and purposeful consciousness. Old steps can be recombined and redirected, through *symbolic* semiosis, to generate new steps into the anticipated future. It takes a social animal with an individual awareness to enter that symbolic world, which extends from everyday 'common sense' to the most arcane of special sciences.

The recognition of others as other *selves* is essential to human awareness. You have developed the concept of a private, separate *self* because you first noticed that there were autonomous agents out there in your world, carrying out intentions *different* from those you had previously been only dimly aware of, but now recognized as *yours*. This difference opened up the space for realizing other selves as beings with whom you could share attention and intentions, and a symbolic system for representing them. You learn to use, name, identify and imagine all sorts of objects by implicit collaboration with those other selves, taking a third-person perspective within a joint attentional frame. The 'first person' arrives at the same time, generally during the first four years of life. Tomasello (1999, 99-100) describes the process as follows:

... as the child begins to monitor adults' attention to outside entities, that outside entity sometimes turns out to be the child herself – and so she begins to monitor adults' attention to her and thus to see herself from the outside, as it were. She also comprehends the role of the adult from this same outside vantage point, and so, overall, it is as if she were viewing the whole scene from above, with herself as just one player in it.

The transcendent observer's 'objective' or 'god's-eye' view is an imaginative leap, greatly facilitated by symbols. Symbols enable us to conveniently represent perceptual judgments, which combine *percepts* with *concepts* to signify relations between objects. It is only by means of the habits constituting your bodymind that you

can read the signs emanating from others and be *informed* by them. Symbol systems enable us to efficiently “package” information in the logical form of *propositions* (we will take a closer look at this form in later chapters). The concept of *experience* itself can only arise from the interplay of all three points of view – first, second and third person – of which human testimony is capable. Bearing witness to things is bearing *witness*. With collective intent we bring forth a common, consensual world of objects, some of which are also subjects.

Can the one who inhabits the *whole* of that world be a person too, carrying out personal intentions? And what of the One in Whom the Whole of the cosmos has its being? This kind of idea is more difficult to investigate than to imagine, but just as the reality of these entities would depend on their component members performing their various roles with integrity, anyone inquiring into their nature would have to ‘sacrifice’ (as Peirce put it) his self-interest to the collective quest for Truth. This is not the same as sacrificing oneself to a collective social selfhood: ‘Truth is truth, whether it is opposed to the interests of society to admit it or not’ (EP2:61). If we bend inquiry to social purposes as we now conceive them, how can we ever learn what the *true* interests of society are?

As each person inhabits a cognitive bubble made of signs, so does a whole society inhabit a bubble made of laws and customs, which are *legisigns* in the Peircean terminology whether they’ve been written down or not. Within that semiotic universe, an organism can be regarded as a community, a community as a person. ‘The boundary of the personality is a semiotic boundary,’ according to Lotman (1990, 138). Every autopoietic system defines itself by means of a ‘membrane’ of some kind which regulates its relations with the world thus defined as *external*. Something comparable to the cell boundary which is essential to autopoiesis must *virtually* exist for higher-scale habitants as well. Metaphorically, the collective/cultural bubble is to the individual cognitive bubble as the ancient city wall is to the cell wall (or rather the cell membrane), each being an autopoietic construct which constitutes the community or system by separating it from its environment.

Fixing the bubble

Experience is a system's contact with the world beyond its self-organized enclosure. What we have called the 'cognitive bubble,' individual or collective, has to open up to experience in order to grow. Our belief and habit systems need to be constantly refreshed and renewed by discovery of one kind or another, but discovery is also disturbance, and the more significant the discovery, the more disturbing it usually is to the system. Discovery, then, must be followed by recovery – or else. If the cosmic egg were really broken, all the king's horses and all the king's men couldn't put it together again. Hence the instinct of any living system to defend its integrity against disturbing information. Being a self-organizing being, it has to pull oneself together, hopefully incorporating the new discovery into a more robust belief system. Indeed, the wise belief system will not wait to be disturbed, but will actively seek out the kind of experience that will exercise its potential for growth.

As Peirce put it (EP2:369-70), the typical human

defends himself from the angles of hard fact by clothing himself with a garment of contentment and of habituation. Were it not for this garment, he would every now and then find his internal world rudely disturbed and his fiats set at naught by brutal inroads of ideas from without. I call such forcible modification of our ways of thinking, the influence of the world of fact, *experience*. But he patches up his garment by guessing what those inroads are likely to be and carefully excluding from his internal world every idea which is likely to be so disturbed. Instead of waiting for experience to come at untoward times, he provokes it when it can do no harm and changes the government of his internal world accordingly.

Thus we actively (but cautiously) *explore* the external world, seeking out experience that will tend to confirm the more robust ideas inside the cognitive bubble while weeding out the more fragile kind. We do this collectively: science and language are social

phenomena (as is personality), although they must rely on the participation of individuals. Human experience itself must be immersed in consensus even in order to modify the 'garment of habituation.' A collective garment flexible enough to live and grow might better be called a *net* than a bubble: openings, which are lethal to bubbles, are essential to nets. As a Taoist or Buddhist would say, the net is of use because of the openings (or 'emptiness') in it. Any genuine consensus is a network that must remain incomplete, incorporating tensions and contradictions.

This tension is highly creative, and has deep roots in the nature of personality. First there is the deep difference expressed in spatial terms as local vs. global, or in logical terms as individual vs. general. Mark Turner articulates one side of it this way: 'our view is always single and local because we have a single life and not a general life' (Turner 1996, 117). Every system self-organizes at the particular scale of its embodiment and sees its world from within the limits of that bodymind, and the experience from which you can speak is 'private' in that sense. But why then does Turner express his view in the first person *plural*, rather than singular? Although your view is single, not plural, your expression of it can only be *true* in a public language. Likewise the events of your life may appear as singularities at the moment (*individuals* in the strict logical sense of the word), but your human *experiencing* in its continuity is already consensual, woven into the webs of dialogue.

The previous chapter quoted Peirce's definition of an 'experience' in relation to the self-organization of habit: 'An "Experience" is a brutally produced conscious effect that contributes to a habit, self-controlled, yet so satisfying, on deliberation, as to be destructible by no positive exercise of internal vigour.' Self-control, then, always involves a developing relation to a reality external to the self. 'Self-development' which is merely the unfolding of an internal tendency over time does not involve genuine *growth* unless its habits, which continue to determine its actual behavior, are changed by the effect of an experience. Cognitive growth always involves *generalizing*: in a footnote to the above definition, Peirce gives the example of 'a child that puts its forefinger into a flame' and acquires 'a habit of keeping all its members out of all flames' at all times. Learning from experience in this way requires that a habit-system with its

own rules and reasons be perturbed by some 'brute' contact or collision with external reality *and* that the system respond by making its own rules more realistic, i.e. more intimately connected with the world external to it.

When i relate to you as another self, another habitant, i recognize that your experience of me (and of everything else in your world) is private; i have no direct access to it. The gap between your world and mine, then, can only be bridged by *empathy* – a concept which would make no sense if the gap did not exist, for then there could be no distinction, let alone interaction, between you and me. This is the 'second-person view' of the world – in Peircean terms, an interpersonal form of Thirdness, necessarily involving genuine Secondness.

At the same time, i recognize that we have consensus about many of the features of the world we experience, and thus we can speak of it as *the same* world. For instance, in this consensual domain, we can say that both of us are organisms of the human kind. (Any nonhuman beings reading this are asked to kindly *imagine* being human for the moment.) And we confidently expect that yet another (third) person would confirm this agreement. If the world is inside out for each of us, how do we manage to sustain this consensus? We synchronize our worlds with so little effort that the very question of how we do it seems absurd; if it were not so, it would not be astonishing to realize that the world is inside out. The things we do most easily are the hardest to explain, but the effort is called for by the ancient Greek precept, *Know thyself*. Such an effort seems crucial to the development of a fully human guidance system. It takes a conspiracy of all three 'persons' to recognize the 'first' (or indeed any one of the three).

This conspiracy is facilitated by the fact that we all breathe the same air of language and its underlying logic. For instance, one reason it is startling to say that *the* world is inside out is that the definite article ('the') strongly disposes us to think of *one* definite world; if i said that *a* world, or *your* world, is inside out, no shock of information would occur.

Where was it one first heard of the truth? The the.

— Wallace Stevens, 'The Man on the Dump'

Working the net

Consensus and culture are woven on the loom of language. But how does language get started in the first place? It seems to lift itself by its own bootstraps as the child develops all three persons (first, second and third) by participating in 'joint attention' to things:

the child's understanding of a joint attentional scene includes as an integral element the child herself and her own role in the interaction conceptualized from the same 'outside' perspective as the other person and the object so that they are all in a common representational format – which turns out to be of crucial importance for the process of acquiring a linguistic symbol.

— Tomasello (1999, 97-8)

When we have commonly or jointly observable objects to anchor our references, consensus is relatively easy to build. But experiencing itself does not appear in this public domain, nor does the unique quality of any instance of it; and when the objects of which we speak are abstractions or 'second intentions,' the indexical lines connecting consensus to direct experience may be stretched or even broken. Even between intimates, this kind of language may help to confirm a feeling of (or desire for) consensus, but cannot consolidate or furnish it with truth, unless both partners share not only prior acquaintance with the objects of their symbols, but also definite habits of using those symbolic expressions for purposes like this, coupled with a will to learn.

You will recall the word of Heraclitus that 'the Logos is common'; from this to the logic of Peirce's 'critical common-sensism' there is an unbroken semiotic continuity. The 'common' logos to which Heraclitus referred divides into the implicitly common and the explicitly common or 'conventional.' The former is 'given' to all 'in the immanent structure of their shared experience' (Kahn 1979, 101-2); the latter has to be learned. Any specific part of it, however, lies somewhere on the spectrum between those poles.

Meaning too has a dual aspect: individual efforts can be meaningful only in a social context, but a social (political, economic, scientific, religious) order can be meaningful only to an individual mind – albeit one ‘dominated by the way things are publicly interpreted’ (Heidegger 1927, 222). Sociologists have showed how the implicit social consensus operates when people gather together. Of this Goffman (1959, 9) says,

I do not mean that there will be the kind of consensus that arises when each individual present candidly expresses what he really feels and honestly agrees with the expressed feelings of the others present. This kind of harmony is an optimistic ideal and in any case not necessary for the smooth working of society. Rather, each participant is expected to suppress his immediate heartfelt feelings, conveying a view of the situation which he feels the others will be able to find at least temporarily acceptable. The maintenance of this surface of agreement, this veneer of consensus, is facilitated by each participant concealing his own wants behind statements which assert values to which everyone present feels obliged to give lip service.

The genuine dialogue which Goffman considers to be an ‘optimistic ideal’ occurs only when the participants are more committed to the quest for truth than to the maintenance of conventions or the promotion of special interests. In the more usual circumstance he describes, every honest person feels the element of hypocrisy under that ‘veneer of consensus,’ but only when the ‘smooth working of society’ is disrupted does this feeling come out into the open. Prophecy can bring it out, or tragedy – as at the end of *King Lear*, when Albany says

The weight of this sad time we must obey;
Speak what we feel, not what we ought to say.

A comic version of consensus-shattering occurs in Stanislaw Lem’s ‘Eleventh Voyage’ of Ijon Tichy in *The Star Diaries*. The intrepid Tichy, disguised as a robot, infiltrates a planet of robots

who put to death any human found amongst them – they have developed an obsessive hatred of all fleshly creatures, whom they call ‘mucilids.’ Eventually Tichy discovers that all the robots so ruthlessly bent on exterminating humans are actually humans in disguise, and he tricks them all into unmasking. Lem’s satire of oppressive social systems, and of how people get co-opted into them, is hilarious and devastating, because we can all identify with the need to ‘fit in.’

This urge to conform colludes with our predisposition to trust the testimony of others, often extending this trust to matters of opinion. When you judge that someone else’s acquaintance with a specific subject is broader or deeper than your own, you are inclined to adopt their beliefs about it. In other words you recognize their *natural authority* in those matters (as opposed to the artificial authority imposed by force or convention). This means relying on second-hand or indirect experience, but we recognize and trust the expertise on which natural authority is based because we see it as derived from what Peirce calls ‘the authority of experience’:

Experience may be defined as the sum of ideas which have been irresistibly borne in upon us, overwhelming all free-play of thought, by the tenor of our lives. The authority of experience consists in the fact that its power cannot be resisted; it is a flood against which nothing can stand. The maxim that we ought to be “guided” by experience amounts to this, that what we have got to yield to at last we shall economically do well to be submissive to from the first. “Guided” is too egotistical a word.

CP 7.437 (c. 1893)

The advantage of direct experience is that it curbs our egotism, bestowing genuine humility by forcing us (sooner or later) to see how tenuous our own belief systems are. To see the real connection (and the difference!) between experience and belief is to face up to our own fallibility. But that depends on honest observation, and on critical thinking, especially about our own beliefs. We often fail to do that kind of thinking because we are too

busy promoting or defending our beliefs against the competition – even when our own experience gives us no firm ground for doing so.

The information economy

Professional scientists organize themselves in specialized communities, but the basic principles of scientific method apply to all of them – and to what we call *common sense*, to the extent that our thinking is critical and systematic. In other words, they are the general principles governing the *information economy*. Like scientific methods, they require a mind which is both humble enough to admit its own fallibility and critical enough to distinguish between fact and opinion, and between sound and unsound inference from experience. And like professional science, our everyday personal judgments can be corrupted by special interests (prejudices) which block the path of honest inquiry.

The long-term sustainability of the consensual network depends in part on the methods used to fix belief. This calls for a closer look at the methods described by Peirce and outlined in Chapter 7 – the methods of ‘tenacity’ (‘willful belief, self-mendacity’), authority, reasonable dialogue (‘fermentation of ideas’), and scientific inquiry. Although they often overlap in practice, the differences between these four methods are real enough to be worth considering. What they have in common is that they come into play only when belief is ‘broken,’ i.e. when experience or dialogue presents some challenge or resistance to some implicit, habitual belief. The deepest of these beliefs are “instinctive” or “intuitive,” and Peirce maintained that such instinctive “gut” beliefs, having survived long experience and testing in the crucible of evolution, are more reliable guides in typical everyday situations than beliefs arrived at through deliberate conscious reasoning. This makes sense because reasoning itself has to rely on moves we make instinctively.

Instinct, however, is far from infallible; and the ‘common sense’ of unquestioned or automatic beliefs is even less trustworthy in our time, when so many of these are due to social conditioning. The ‘advertising’ or ‘public relations’ industry

constructed over the past century to propagate beliefs has proved itself adept at such conditioning but indifferent to reliable standards of truth. On top of that, the corporate owners of this industry have come to dominate what passes for political discourse in many “democratic” countries, despite their disregard for the well-being of the populace. Our ‘common sense’ has been systematically corrupted, to the point that it can be difficult to tell whether a given ‘sentiment’ is really instinctive in the Peircean sense. This complicates the perennial problem of social consensus, and raises the stakes of our commitment to critical thinking. How can we detect the difference between ‘the great body of truth’ (as Peirce called it) and a collective delusion?

Our ‘cheerful hope’ that the true answer to any meaningful question is ultimately knowable does not blind us to the fact that we are infinitely far from knowing the whole truth now. Although we can trust that many of our beliefs really are true because the expectations they generate are so consistently fulfilled, we can also be sure that some of them are wrong, that our current knowledge is at best incomplete. Indeed what drives the process of investigation is our awareness of holes in the system. Since we don’t know *which* beliefs will surprise us one day by colliding with reality, we collude on the current consensus, and on that basis investigate the relatively few beliefs which are currently open to genuine questioning.

That in a nutshell is how pure scientific consensus works – an ideal which, like the ultimate truth itself, is never fully realized in practice. Science takes an especially degenerate form when it becomes a profession employed by vested interests for whom the truth is not a priority. However, to the extent that it remains a public enterprise following a scientific method of ‘fixing belief,’ we can still hope that the truth will out eventually.

Acting on this hope increases the flow of information, but also increases the burden of *information overload*. In this digital age we can easily quantify information (in megabytes, gigabytes, terabytes and so on) and access vast quantities of it – but this might better be called *potential* information, because no sign *actually* informs a guidance system until it is interpreted (that is, until it determines an interpretant which modifies a habit-system). This is unlikely to happen unless systematic *attention* is paid to the sign, or rather to

its object through the sign. This becomes a problem for the information economy when the quantity of potential information vastly exceeds the limits of time and attention available for reading the signs. As David Orr asks (2002, 65), how can we 'sift through the daily tidal wave of information to find that which is important or even correct?'

Critical common sense

If (as often happens) we care about the truth of a theory but don't have the time, ability or inclination to understand how it's been tested, we often fall back on forming an opinion based on somebody's authority. A scientist's authority is based on her reputation, which in turn is based on her results being replicated by other researchers who have no vested interest in backing her up. In this respect the competitiveness within the scientific community is an advantage for the rest of us: scientists being professionally skeptical of others' claims, it is rare for one of them to get away with faking a discovery. This does sometimes happen, as in the case of a 1998 study claiming to show that use of a common vaccine could lead to autism; but this claim was later shown to be fraudulent and retracted by the journal which published it. When this kind of fraud is eventually detected, the scientist's reputation is destroyed. The pattern is predictable enough to keep most scientific workers relatively honest, most of the time. That's why we can provisionally trust the scientific consensus, when there is one, despite its fallibility.

Scientists can and do produce reports that distort the facts to serve the interests of their employers or funders, or try to cover up information contrary to their interests. Sometimes it takes a whistle-blower to uncover the truth, but most of the time anyone who understands how and why a study was done can spot its deficiencies by applying critical common sense to it. When claims are made that would overturn the scientific consensus – by climate change deniers, anti-evolutionists and such – they can rarely stand up to the critical scrutiny of anyone with an open mind. When they do stand up, the scientific consensus changes; when they don't, only those who share the same bias believe them.

The same principles apply, though less rigorously, to the popular consensus. Some opinions are true and some are not, and in most cases it is possible to tell the difference. A true opinion is not a *fact*: it is a generalized guess about the way actual experiences are interrelated. All opinions are vague to some degree, and their relation to specific facts not entirely clear; this limits our ability to judge their truth. But within those limits we can and do judge some opinions to be closer to the truth than others.

You can't help believing that most of your beliefs are true, but you can also be sure that some of them are wrong, that all of them are vague, and that being alive means having a lot more to learn. When we forget our fallibility, the short cuts we take on the way to knowledge become short circuits burned into our guidance systems. One common short cut is reliance on (or obedience to) some particular authority figure. But this doesn't have to be done mindlessly; indeed, 'every thoughtful submission to authority is qualified by some, however slight, opposition to it' (Polanyi 1962, 164). This is the home ground of critical thinking, where collaboration replaces subordination.

Another short cut is to react against authority instead of submitting to it – jumping to a conclusion because it's the opposite of what 'The Authorities' say, or because it's 'contrary to popular belief.' If you enjoy the thrill of feeling wiser than others – and most people think they are wiser than most people – the feeling of being right is further inflated by the conviction that everyone else is wrong. Conspiracy theories thrive in this pumped-up atmosphere. But uncritical rejection of authority or popular consensus is no better than uncritical acceptance of it; both lead to delusions. So does the method of tenacity, which short-circuits critical thinking by adopting a belief (based on a "gut feeling" or "revelation" or "insight" or whatever) and then rationalizing it – that is, looking for evidence or reasons that would support it while ignoring any fact or argument that would challenge it. It's easy to fall into such habits, and if we do, the very *sincerity* of our beliefs is likely to bury us ever deeper in delusion. You're not using genuine critical thinking unless you apply it with special vigor to the beliefs you are partial to.

Our main defense against delusion is authentic testimony to

genuine experience, guided by three ethical principles. The first is that truth matters more than self-interest or partiality. The second is that there is no infallible guide to truth – but some methods of inquiry are more likely to get there than others, because they incorporate actual experience as a reality check on belief. The third is that our methods must be *economical* in the sense that they make the best use of our limited time and attention. We are called to maintain the integrity of our belief system, while realizing how limited our personal knowledge is and how pervasive our tendency to fool ourselves. We are also called to maintain respect for the independence of truth from our beliefs, while realizing that belief is all we have to live by. These too are ethical principles, and each of them is vital to maintaining the connectivity of diverse inhabitants which is the life of the community. Each of these principles can become a trap if it causes us to forget all the others.

Science and religion

According to Peirce, reasoning and instinctive feeling or ‘sentiment’ are complementary aspects of an evolving tendency toward a higher unity. This complementarity is sometimes reflected in a dynamic tension between science and *religion*, which in its pure form is an expression of a common human aspiration toward wholeness, just as science is a communal quest for Truth. Peirce found that aspiration essential to Buddhism and Christianity alike:

the supreme commandment of the Buddhisto-Christian religion is, to generalize, to complete the whole system even until continuity results and the distinct individuals weld together. Thus it is, that while reasoning and the science of reasoning strenuously proclaim the subordination of reasoning to sentiment, the very supreme commandment of sentiment is that man should generalize, or what the logic of relatives shows to be the same thing, should become welded into the universal continuum, which is what true reasoning consists in. But this does not reinstate

reasoning, for this generalization should come about, not merely in man's cognitions, which are but the superficial film of his being, but objectively in the deepest emotional springs of his life. In fulfilling this command, man prepares himself for transmutation into a new form of life, the joyful Nirvana in which the discontinuities of his will shall have all but disappeared.

CP 1.673 (1898)

This 'joyful Nirvana' represents the ultimate fulfillment of Peirce's *synechism* (from the Greek *συνεχής*, 'continuous'), which he defined as 'the tendency to regard everything as continuous' (EP2:1). From this perspective, a universe of separate individuals can be seen as the dismembered corpse of a higher being who is remembered through communication (the fully social form of semiosis), as 'a new form of life' awakening to start again. Rather than being absorbed (i.e. annihilated) within the higher organism, the person is integrated with it, as a part whose wholeness is enhanced by inhabitation of (and incorporation within) a more comprehensive habit-system. 'A sign is not a sign unless it translates itself into another sign in which it is more fully developed' (CP 5.594); likewise, every self-organizing habit-system actually taking a turn or playing a part governed by a higher-scale system generates a more fully integrated *habitant*.

Your mission then is 'to recognize a higher business than your business, not merely an avocation after the daily task of your vocation is performed, but a generalized conception of duty which completes your personality by melting it into the neighboring parts of the universal cosmos' (Peirce, CP 1.673, 1898). This cosmos is a holarchy, and within each holon, each member has a stake in maintaining the integrity of the system; but the health of the system also depends on the integrity of each member.

Sciences and religions are all consensus-building institutions. For sciences, establishment of consensus is the means to the end of investigating the true nature of the observable world, the objects of joint human attention. For religions, the consensus is more like an end in itself. The root of the word 'religion' suggests 'binding': it connects people into a network, as a *ligament* connects muscle to

bone. 'Religious experience' is mostly a matter of inner feeling, where Peirce's *Firstness* is primary, while *experience* in science is mostly an 'Outward Clash' emphasizing *Secondness*. But genuine *Secondness* always involves *Firstness*; and of course consensus itself depends on communication, signs and *Thirdness*. Joint attention in religious matters is not primarily directed to externally observable objects as scientific attention is, and thus the indexical functions of its symbolic system are much less important than the iconic. (When the objects of worship *are* perceptible to the senses, and thus external, we call them *idols*.) The prophet, in order to introduce *Secondness* (as revelation) into the religious domain, has to persuade others to accept his personal testimony and authority rather than relying on observations of the external world that others can replicate.

Science is founded on the faith that the patterns which connect phenomena can be understood, or at least learned about, by a method which is basically trial and error guided by critical thinking. If the guiding patterns of the universe can be referred to as 'purposes' or 'meanings,' pure science (as opposed to corporate science, or 'research and development') tends to consider specifically human purposes and meanings as rather small and partial details of the cosmic picture. Yet the whole cosmic picture, insofar as it is *ours*, is only a partial projection of human intentionality. The cosmos and the kingdom of heaven alike are inside out: we are in God and God is in us.

Since they tend to place the highest priority on consensus itself, religions tend to rely on authority, which is more effective at holding a consensus together than reasoning, experiment and critical thinking. They tend to express themselves mainly in moral imperatives, which are meaningless outside of a human social context, yet claim higher-than-human authority. Religion is a vital part of human spiritual life because we are social animals, but since it values the experience of community over the experience of discovery, it does not always value the testimony of direct (individual) experience, especially when that testimony challenges the current consensus.

When the religious consensus is strong in a given culture, people who are unwilling to let consensus override their own experience – the same people who would in other circumstances

turn to philosophy – turn to exploring direct experience privately, or in small esoteric groups. When the tension between direct experience and consensus becomes too great to ignore, these people may ‘come out’ and claim authority themselves (since that is the only means of *informing* such a culture, or revealing anything to it beyond its currently conventional beliefs). Depending on who wins the ensuing power struggle, they may become the reformers, visionaries, heretics, martyrs or prophets who rejuvenate the religion or start a new one. Or, if cultural conditions allow, these people may turn to empirical sciences as more reliable means of investigating the real relations between humanity and the rest of creation.

If religion can be corrupted by its reliance on authority and degraded by its overriding need for consensus, science can also be corrupted when its methods are manipulated by special-interest groups (which in our time usually means corporate interests). Thomas Kuhn and others also find in science a natural aging-and-rejuvenation cycle of its own (see especially sections 4 and 5 in the 1969 Postscript to *The Structure of Scientific Revolutions*.) Religion also appears to proceed through periodic revolutions, however much each stage in its evolution is tempted to declare its doctrines to be eternal verities. Science and religion are twin expressions of the human spirit, differing mainly in emphasis, priorities and methods.

Toward Wholeness

As a genuine person, your instinctive empathy urges you to participate in something higher than your little self, and yet from the outside you know that you have nothing but your little brain with which to perceive (or imagine) ‘something higher.’ For instance, maybe you want to live for the sake of Humanity. But if this is a conscious desire, you must be representing Humanity to yourself: you must have your own concept of it. If you are humble enough to be honest, you have to ask yourself how this concept relates to the reality. Are you dreaming up ‘Humanity’ yourself? Or is ‘yourself’ just a fragment of the Human body? Or is Humanity dreaming up you?

In politics, this question is played out (or caricatured) as a struggle between democracy and totalitarian government. Within a democratic system, it appears as a struggle between consensus-building and 'manufacturing consent' (Herman and Chomsky 1988) – between order emerging from the bottom up and propagated from the top down. Conformity to the 'manufactured' consensus means looking to the social milieu for the content, rather than the context, of your thinking. Heidegger refers to this as 'lostness in the *they*' (*das Man*) – referring to the 'they' in "they say," or the 'everybody' in "everybody knows," or similar vague expressions.

If the world is inside out, then all social hierarchies which subordinate the individual to the collective are upside down. But if the world is outside in, then all private considerations are merely selfish. The same political agonism is played out within every religious movement that survives long enough to develop institutions. For many early Christians, the conflict was between the self (or *psyche*) on the one hand, and on the other, Christ as the body (church, *ekklesia*, *pleroma*) of which all Christians were members. Which one really represents *pneuma*, the spirit?

One way to resolve this perpetual struggle is to focus on the natural hierarchy of scale rather than the social class hierarchy. Then the King or Lord becomes a metaphorical representative of the higher scale rather than a merely dominant or powerful person like an alpha male. We can also read the Word this way, as Northrop Frye demonstrates in *The Great Code*. First he explains that you cannot escape the burning question by turning from secular politics to religion, for 'religious bodies do not effectively express any alternative of loyalty to the totalitarian state, because they use the same metaphors of merging and individual subservience.'

And yet there are quite different ways of formulating the royal metaphor that are equally consistent with the way it is stated in the New Testament and elsewhere, and yet totally inconsistent with totalitarian ways of stating and thinking it. Paul, for example, says that he is dead as what we should call an ego, and that only Christ lives within him (Galatians 2:20, and similarly elsewhere). This is the same metaphor, but the

metaphor is turned inside out. Instead of an individual finding his fulfillment within a social body, however sacrosanct, the metaphor is reversed from a metaphor of integration into a wholly decentralized one, in which the total body is complete within each individual. The individual acquires the internal authority of the unity of the Logos, and it is this unity that makes him an individual. Paul's phrase 'not I' means that he is not talking about any form of private judgment or any egocentric formulation of the metaphor. Private judgment is for dreams, where, as Heraclitus says, every man is his own Logos. Naturally what is expressed here is an ideal and not a permanent achievement, even for Paul; but then no permanent achievement is ever enough.

— Frye (1982, 100)

Perhaps the reason that no permanent achievement is ever enough is that the fountainhead of cultural development is the *tension* between consensus and personal integrity. This tension is inherent in all systems complex enough to incorporate living systems in their own organization; it is entailed by Kant's observation (which we have already met) that 'in an organized body, every part exists for the sake of all the others as all the others exist for its sake.'

From this perspective, the mission of a human is to be *both* an instance or manifestation of complete Humanity *and* a small part making a humble contribution to the Whole. And beyond that, to engage in a reciprocal relationship (existing for one another's sake) with the other inhabitants of the biosphere. As Peirce said of symbols, it is constitutive of such a relationship that it *grows*. Semiotic (and therefore personal) growth is not about owning more, or collecting more purchasing power, or even collecting more information, but about developing a higher connectivity. In the Buddhist idiom of Dogen, the ultimate interpretant of this path is the realization in practice that all sentient beings *are* the buddha-nature. The 'aspiration for enlightenment' in this context is equivalent to that 'cheerful hope' of learning the whole truth which animates the scientific community.