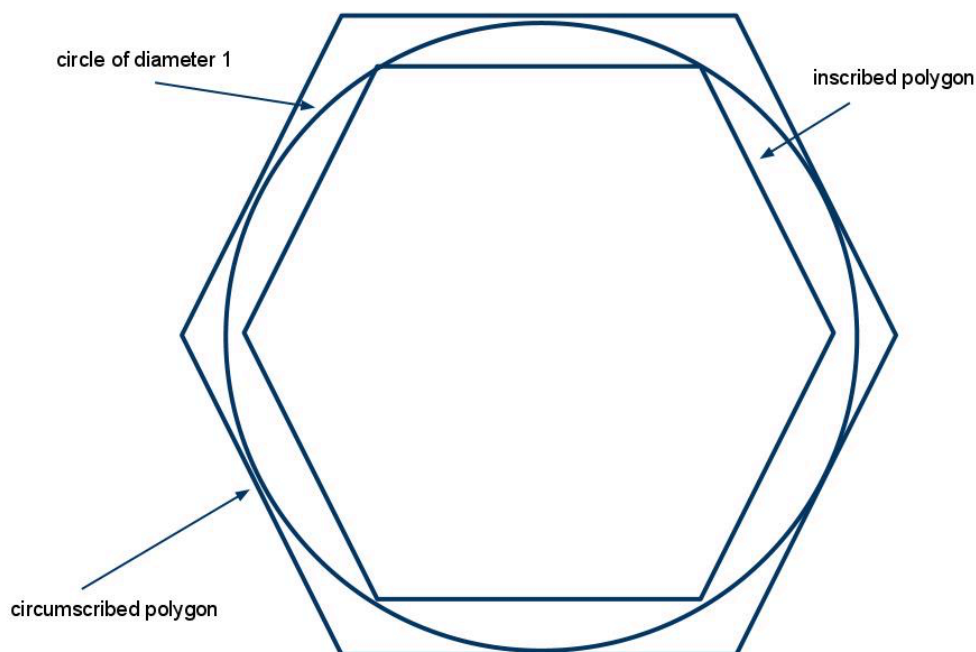


same size as a given circle. The problem they called “squaring the circle”. Or of finding the ratio of the diameter to the circumference; finding the value of pi (π). They wanted to catch the world in their conceptual nets of reasoning.”

“Now Archimedes, whom you’ve no doubt heard of, developed a method, known as ‘the method of exhaustion’, which displays the problem in a visually simple way. He simply drew a square on the inside of a circle, so the corners of the square were just touching the circumference of the circle; and then drew another square on the outside of the circle so the mid points on each side of the square just touched the circumference of the circle. Now obviously the square which is the same size in area as the circle is one which lies somewhere between these two squares. From drawing squares, he moved on to drawing octagons. An octagon can be easily straightened out to form a square; and we are now getting closer to our target square which is the same size as the circle. Depending upon your skill as a draughtsman you could move on to polygons of more and more sides.

He illustrated this for me by drawing it with his finger in the sand.

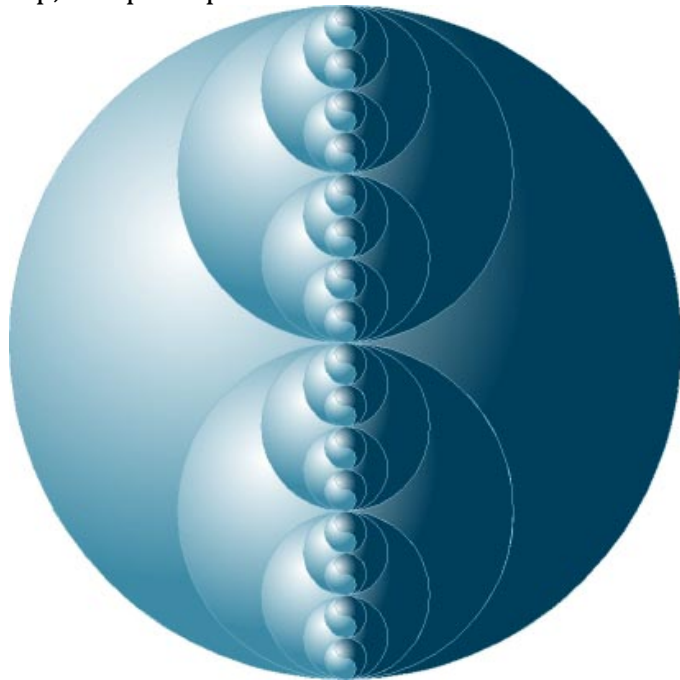


“Largely as a result of using this method these early Greeks got pi (π) to four decimal places; to 3.1416. Earlier the Egyptians seemed to have reached 2 decimal places, and then later, especially as other methods developed, the Arabs, Indians and Chinese slowly extended that to about 30 decimal places by the time of the Renaissance, by which time, this and other intellectual problems had been taken up in the West. These puzzles had been brought to the West by the Moors and the Crusaders, who introduced the West to Greek science and mathematics. Early in the 18th Century the 100 decimal point mark was passed, and in 1949,

when the first computers were brought to the task the 2000 mark was passed. By the 19th century mathematicians had proven that π was an irrational number; which means that we can never arrive at a final answer, the circle cannot be squared, but now that we have computers, human vanity will allow us to produce trillions of decimal places, for those with the time. Any such publications of these numbers would no doubt qualify for being the most boring book ever.

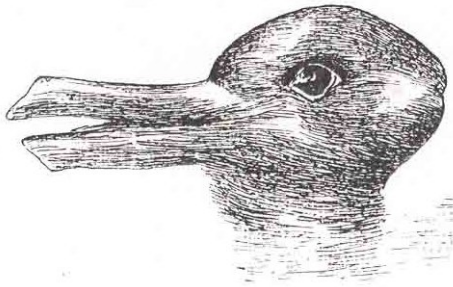
“Now as we trace this history of squaring the circle we see that mirroring it has been the collection or storage of knowledge, from simple folk tales and the knotting of ropes to the development of writing, printing, and now computers. As we have increased our knowledge of the value of π so to have we accumulated more and more conceptual knowledge of the world. Our libraries are not only getting larger and larger, but administrative data is also growing at a rapid rate. If this appetite for measuring and storing more and more conceptual knowledge goes on, we are not only going to have problems storing it all, but of opening channels of communication between the various departments of conceptual knowledge. What many have failed to notice, is that as this pursuit of conceptual knowledge and increasing specialization has proceeded we have got more and more out of touch with each other and the world we were trying to capture; a matter of not seeing the forest for the trees. Perhaps the problem wasn't to square the circle, but to circle the “squares”. As we know these ‘squares’ doing all this calculating are none too hip, and perhaps we need to look more towards circling the ‘square’.

“Looking back at Pythagoras' method, you see that he tried to capture the “roundness” of life with the “straightness” of his conceptual tools. But lets reverse this. If nature is primarily curved, how does straightness arise? Where do our concepts (or conceptual nets) come from? Do our concepts not arise from out of nature too; are we not part of nature? Here is a way of looking at that. Lets start with our circle, and paint one side of it white and the other black. Now imagine you can hold it by its north and south pole and give it a twist. So if we give it a twist, we then have this image, which of course you immediately recognise as the yin-yang sign. Alternatively, you could say that we have constructed two circles inside our original circle. And if we twist again, and again, so that we have yin-tang signs inside each other, you can see the diameter, or straight line is gradually emerging across the centre of the circle. ‘Straightness’ arising out of ‘roundness’, which of course is far more what happens in nature.



As he proceeded to say this he drew again his illustration of this process in the sand.

“You see what’s happened is that the poor old ‘square’ mathematician, or intellectual, has started from a position outside of, or separate from the world which he wants to capture in his nets of reasoning. But we want to see where his nets of reasoning have come from. A couple of years ago a fellow by the name of Thomas Kuhn wrote a book [*The Structure of Scientific Revolutions*] on how every now and then scientists and other thinkers come up with a whole new net to capture the world in. They now start catching different ‘fish’ than the ones

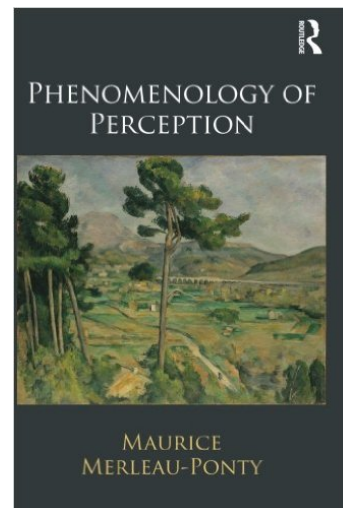


caught in the previous net. Now as the scientist or thinker lives in the world, these nets arise from or come out of the world, not into it. It is a quite different process from capturing a process from outside of it. One might say it is more a matter of “under-standing”.

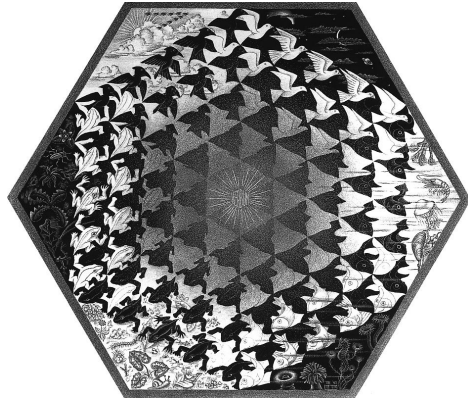
“When you read the stories of the really great thinkers, you will learn that they

didn’t rack their brain trying to fit some strange aspect of a phenomenon into an existing net, but just sat with the phenomenon, contemplating it, sometimes for years, until gradually, or in some cases suddenly, a way of describing it or perceiving it, simply and elegantly, came to them. Goethe called this a ‘delicate empiricism’, as the main scientific tool is yourself. Its perceptual knowledge or perceptual intelligence as you learn to discern Columbian coffee from Kenyan. As it dawns on you this can be seen as a rabbit if you shift your focus from the left half of the picture to the right. PI can now stand for perceptual intelligence.

“Conceptual knowledge, or attempts to ‘square the circle’, began from a place of separation, where the observer and the observed are separate, a so-called objective position. But you see here with my circle within circles, we started from a unity, from a position of participant observers. We don’t have a sense of ourselves as separate from what we observe. It would be more accurate to say we are the universe observing itself, if we could say anything at all about ourselves. But we can’t even say this. Mystics call this *agnosia*, which is different from being an agnostic; as an agnostic is expressing a belief about his not knowing, whereas in *agnosia* there is only silence. All conceptual knowledge has been dropped; including conceptual knowledge about oneself. So by being silent, we glide into fusion, and in harmony the mystery reveals itself to us.



Perceptual knowledge is a more contemplative knowledge, and as you watch something coming into existence, figure and ground have not separated from each other in the beginning; figure and ground are interacting with each other. The alpha and the omega, the front and the back are coiling back on each other: the ancient serpent coil our attention

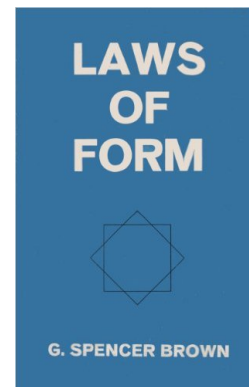


flows around. You see this in some of M.C. Escher's drawings or the twist or coil on the Mobius strip which gets our attention going back and forth from the foreground to the background. As we go round and round these circuits our attention begins to be captured more and more by one side, as we notice figure-ground details in that, and a form begins to take on a presence of its own.



Conceptual knowledge begins when the object takes on a life of its own; separated from its context – and now labelled. The spell that united us all has been broken, and we are now separated observers looking at factual or meaningful things. Time now seems to start ticking again.

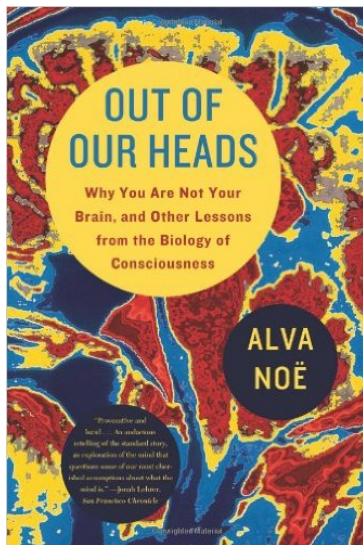
“If you want to explore this some more, and you have a bit of a mathematical bent, go look at Spencer Brown's *Laws of Form*, which has just been published. He uses the mathematical symbol i as the twist or turn; it stand for the square root of minus one, which is both plus and minus 1 at the same time; or the constant on-off of an alternating electrical current. Or just look at some of Escher's work. I am particularly fond of a piece called 'Verbum' (which means 'God's self-knowledge' or 'word', as in "In the beginning was the word") as I think it shows the genealogy of form so well. Both of these works get at



the hierarchy of angels that (pseudo) St Dionysius the Areopagite 'divined' 1500 years ago.¹ Your squares have tried to claim that you cannot get something from nothing, but life shows something arising from nothing constantly. But to be fair, it can be said that it is something from everything also.

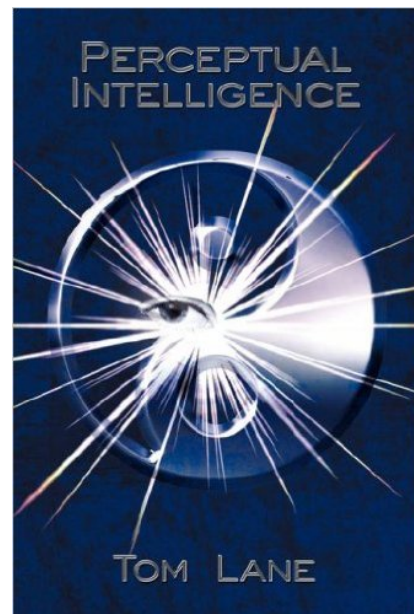
“In the old views of perception, we were depicted as brains interpreting sense data coming into the head; but now we have new ways of understanding perception that isn't based on an inner computer. We have more nerves going to the senses than coming from them, and these are motor nerves. We are using our eyes and ears much like a blind-man uses his cane, to probe the world for a way forward. We feel the world out. After cataract surgery people who have been blind are unable to see until they become mobile. And..., look at that vase on the table, you can't see its back from here; but you've discovered that if you move your head or walk round behind it you will see the occluded part. So we've developed these anticipatory feelings, micro-muscle movements, that give us this sense of the vase having a back (or being surprised if it doesn't). We develop a

'sense' about things, or things have a 'presence' to us. We see the tree stump as a



chair. As kids we pick new objects up and examine them every which way, as this sensory-motor understanding of the world develops. The alpha and the omega here is the sensory probe and then a reaching round behind until, in a pincer-like movement, we grasp the vase. As I said, some things take years to grasp, or from great heights or distances that are way beyond my immediate reach I lose touch with them, and I have to sit awhile, and let the world come to me so I can be in touch with it again. Some struggle to let go and let the world come to them in such situations, and as a result develop fears about heights or wide-open spaces. They literally are out of touch.

"The more we can let our gaze go into empty space, and hearing into the silence or noise, and allow the intangible to come to us without grabbing at it, we find ourselves gliding in harmony with the world. In such contemplation its as if we are spinning along this axis," he said pointing to the diameter of his yin-yang circle, "where all forms emerge and return to this spiral void. Here the mysteries of life show themselves to us. This is where all the great mystics of the world's religions would take us, but unfortunately our attempts to conceptualise this bewitches us; grabbing hands shatter this ethereal web, and prevent us living "in-light-end". Contrived virtue crushes your inner-sense, just as power ends your tenderness; but the mystic drifts or flows like water with a faith that the universe provides.



I don't recall many of the other associations he made to his recursive yin-yang sign that evening; but by morning he was gone. Since that time I have been exploring his introduction to divinity and genealogy; and I am still trying to quieten my conceptual mind from grasping and shattering this delicate sacred web. But I now understand how the isolated part becomes whole, and we can see "a world in a grain of sand". I appreciate more and more that I live in a culture where conceptual knowledge has been grasping and exploiting the world from outside, when perceptual knowledge is needed for ecological sanity.

May 1972

1. Pseudo-Dionysius: The Complete Works. 1988. Mahwah, NJ: Paulist Press.

See also Nicholas of Cusa – where the straight line is a portion of the infinite circle (infinitely large) – again working from the circle to the straight line than the opposite. He also was onto switching-value logic – is and is-not – as in Laws of Form. He also claims the genesis of his thinking to a mystical experience and reading Dionysius.