

CHAPTER 4: CRAFTS, PERCEPTION, AND THE POSSIBILITIES OF THE BODY

i: Introduction

The distinction between "art" and "craft" carries a huge accumulation of intellectual baggage, and a long history of philosophical controversy. It also bears, at least in our culture, a number of sociological differences. Practitioners of art and of craft tend to belong to distinct professional groups, and many journals firmly associate themselves with only one of these activities (there are some exceptions, such as the magazine "Art and Craft"). Moreover, their activities differ appreciably in terms of social status and economic reward. Various types of snobbery, rivalry, and defensiveness attend the ascription of these terms, accordingly.

Among the distinguishing criteria that have been suggested -- and contested -- are: That craftworks must be functional, whereas fine art need not, even should not, have any practical use. That craftworkers should employ the "right" methods of making, often understood as traditional skills, and produce the "right" sort of artefact (a perfect pot, or spoon), whereas artists should set their own aesthetic standards. That craftsmen produce "the same piece of work, made over and over again" (this, from Diderot's "Encyclopedie"), whereas art thrives on novelty and surprise. That craftsmen focus on the execution and perfection of their skills, while artists stress the celebration or exploration of their ideas. And that craftworkers are (or anyway should be) content with anonymous, if respected, mastery rather than -- like artists -- aiming for the individual limelight. (The heroic notion of the artist has its roots in humanism and, especially, Romanticism; it would not have occurred to a mediaeval icon-painter, for instance. One might say that, prior to humanism, there were no artists, only craftsmen.) In addition, many people -- following Ruskin and Morris -- insist that craftworks must be made by hand and not by machine,

and a fortiori that they must not be mass-produced.

These historical references remind us that the notion of craftwork is not static, but evolving. The Arts and Crafts Movement of the late-nineteenth century was a pivotal moment in this continual sequence of definitions, especially in Britain. But it has been followed by many others. Indeed, a recent historian of British craft refuses to offer a definition of the term. Instead, she refers to its "shifting identity," and points out that this depends largely on craftsmen's wish to situate their activities in relation to a wide (and ever-changing) range of cultural movements [Harrod, 1999, p. 10].

Cultural changes can also affect the interpretation of individual criteria. Consider the notion of the "handmade," for instance. Ruskin and Morris approved the handmade as part of their protest against the rise of industrialism and factory-technology. A hundred years later, the handmade is lauded by some computer-technologists, on the grounds that: "the hands are the best source of tacit personal knowledge because of all extensions of the body, they are the most subtle, the most sensitive, the most probing, the most differentiated, and the most closely connected to the mind" [McLoughlin, 1998, p. 7]. Thus far, the Brotherhood would presumably agree. But this enthusiast for "digital craft" (the ambiguity is deliberate) speaks of "the seeming paradox of intangible craft" [p. 22], situating craft in virtual worlds as well as the real one. Far from rejecting technology, he stresses the creative potential of a partnership between the skilled human and the computer. Whereas a sewing-machine (for example) enables one to do things more effectively than could in principle be done with mere needle and thread, a computer often enables one to do things that would be inconceivable without it. Such considerations, among others, remind us that the meaning of "handmade" is problematic.

Quite apart from such ambiguities in defining the various criteria, none of the suggested definitions gives us a clear-cut distinction. Consider functionality, for instance. Some objects classed as artworks are functional: think of a Bernini fountain (which serves a highly practical function), or a portrait in miniature prepared for a potential suitor, or an "archival" painting that records some ceremonial occasion. More wide-ranging purposes are served by paintings and dramas that offer a political critique ("Guernica," "The Crucible"), or a cultural affirmation (Madonnas and nativities, "In Which We Serve"). Some craft artefacts, by contrast, are highly impractical: a ceramic vase made by a skilled potter will be useless if it has a pinhole hollow, or even no hollow at all.

Similarly, the criterion of traditional form versus novelty and creative exploration is not clear-cut. A glassblower may eschew the "perfect" goblet, deliberately making one whose stem is not vertical, but highly oblique. (The goblet may nevertheless be functional.) And a ceramicist may systematically explore new stylistic possibilities for forming a set of plates, bowls, and jugs (perhaps also making them so large that they are practically useless): see Section vi.

My purpose here is not to argue for a particular way of drawing this distinction. The terminology of "art" and "craft" does reflect some interesting differences, such as those listed above, but that's not to say that one can draw a hard and fast line between the two. Indeed, in Section vi I shall offer a principled reason why borderline (or better: mixed) cases are only to be expected. Accordingly, I shall rely on an intuitive, and confessedly vague, sense of the difference between art and craft.

Paradigm cases of craft, I take it, include ceramics; textiles; embroidery; jewellery; cutlery and hand weaponry; carpentry and furniture making; dressmaking and millinery; bookbinding;

blockprinting and silkscreen printing; calligraphy; toy-making ... and so on. And the central aim of craftwork, I take it, is to produce something that is not only aesthetically satisfying but also potentially useful.

The "usefulness" is typically related to a comfortable domesticity, or even to the necessities of human life as such. That's not to deny that a craftsman may produce useless objects -- such as a goblet with a rim that prevents any liquid from escaping, or a bottle made of icing sugar that allows the liquid to escape all too soon. But, as we shall see in Section v, the aesthetic interest of such craft objects lies largely in their relation to the exemplary (but unfulfillable) function concerned. In general, then, to appreciate a craftwork is in large part to use it, or at least to be drawn to use it.

Paradigm cases of art, I take it, include painting and sculpture -- and also music, poetry, and choreography (among others). There is room for some semantic quibbling here, for the term "fine art" normally marks only the first two of these activities, and one prominent critic has even declared that "art is by its very nature visual" [Lucie-Smith, 1984, p. 7]. However, the slogan "Art for art's sake" was coined not by a painter but by a poet (Baudelaire). And although almost every example of "art" mentioned in this paper is a painting, the aims typical of art can be satisfied in all these genres.

In art, I take it, the aim is not to meet a practical need but to remind, to affirm, to question, to stimulate -- even to challenge. The challenge may be directed at people's everyday assumptions and worldly behaviour (think of "Guernica" again, or of Bosch's minatory devils). Or it may reflexively address the artistic activity concerned. Often, artists explore the potential of particular art-styles in a disciplined fashion, sometimes transforming them so as to generate items that were

previously unthinkable [Boden, 1990]. (A well-documented musical example is the exploration of the harmonic space of tonality, culminating in atonality [Boden, 1990, pp. 59-61; Rosen, 1976].)

The artist's audience may recognize and appreciate these stylistic explorations. In addition, they are often led to respond -- to remember, enjoy, grieve, understand, question ... -- in ways that relate to specific aspects of their personal lives. But they are not enabled to fulfil an everyday functional need. In short, they are drawn to think and to emote -- but not, or not primarily, to engage in some bodily act.

Given this outline characterization of the two aesthetic attitudes, the rest of this paper contrasts the way in which their artefacts impinge on the observer. The contrast I shall draw is not new. But I shall relate it to specific psychological theories of perception.

My argument implies that the crafts are more "primitive," more "fundamental," than fine art in a sense not usually appreciated. In a word, art and craft engage our minds in significantly different ways. And because these two types of mental process can be elicited by a single object, often simultaneously, and sometimes even in roughly equal measure, problematic cases of art-craft will inevitably occur.

ii: Indicative Theories of Perception

Many psychological theories of perception -- and most accounts of the role of vision in the appreciation of the visual arts -- treat our senses as sources of "facts" [e.g. Gombrich, 1977; Gregory, 1998; Goodman, 1976; Hyman, 1989; Zeki, 1999]. The scare-quotes make the point that we are speaking here of information rather than truth, since the beliefs, depictions, and

representations induced by our senses may not be veridical. They may be illusory, fictional, or just plain false.

On this view, then, the function of our sense-organs is to give us information about some real or imagined state of the world. This information may be more or less complete, coherent, and reliable. Nevertheless, it lies in the "factual" realm, in the sense that it is expressible in indicative sentences such as "A tiger is approaching," "That is a Cubist painting," or "The unicorn has rested his head in the virgin's lap." Because they see the prime outcome of perception as facts in this sense, these accounts can be called "indicative" theories of perception.

Indicative theories can explain much of what goes on in the fine arts. For such theories don't have to claim that the senses are mere passive recording instruments. They can allow, for example, that the eye-brain isn't a camera, but an intelligent system that actively interprets the two-dimensional (and usually "imperfect") retinal image as depicting some -- real or imaginary -- three-dimensional scene.

These interpretations sometimes depend on basic, and universal, visual processes. Bridget Riley's "illusory" paintings, for instance, evoke some psychological mechanisms that are shared by all human beings (and also by "seeing" machines [Gregory, 1967]). Often, however, they depend on culturally acquired knowledge.

For example, some of Riley's illusions "work" only on viewers accustomed to perceiving straight lines and rightangles from a distance. They would not have the same effect on forest-dwellers whose huts are rounded and who rarely see the horizon. Renaissance perspective is especially well-suited to interpretation by people accustomed to seeing straight-sided buildings and long vistas. And Cubist paintings of apples, tables, and violins assume that the viewer knows

what these three-dimensional things normally look like. In all these cases, the art-audience perceives the art-object with an active eye (more accurately, with an active visual cortex).

Indicative theories can allow, also, that the image may remind us of other "factual information" by arousing memory-associations of various kinds. (Not just the visual cortex, but the rest of the cerebral cortex too.)

Sometimes, these associations are based on culturally specific beliefs. Many official portraits, for instance, evoke highly culture-specific knowledge about the social significance of military uniforms, or courtly or religious costumes. Some associations lie largely "within" the art-world, being stylistic conventions that the viewer is expected to interpret appropriately. One has to learn (or perhaps infer, from the biblical passage saying that the the Holy Ghost "descended upon" the disciples) that the dove is used in Renaissance paintings as a visual symbol representing the Holy Ghost. And to recognize an artefact as falling within one or another artistic genre -- such as Cubism, or pre-Columbian art -- clearly requires familiarity with the styles concerned.

Other memory associations depend rather on the viewer's general knowledge of the world. So Bosch's painted monsters affect us because we know, for instance, that no real man has a bird's head. And Dali's drooping watch can surprise and intrigue someone only if they've already learnt that watches can't normally be draped over a branch like a piece of fabric.

As the last example shows, an indicative account of perception can allow that the artist's image may deliberately challenge fundamental assumptions about what is "normal." To be committed to the indicative approach is not necessarily to be boring.

Indicative accounts of perception are neutral as between "post-box" and hermeneutic accounts

of art. A post-box view sees art appreciation as the transmission of information from the mind of the artist to the mind of the viewer. That may be a plausible description of what is going on in some cases, if there is reason to believe that artist and viewer share the same "codes" for interpreting certain representations, and are primarily interested in the same aspects of the case. (Possibly, this may apply to some part of our response to Renaissance perspective.) But a theory of perception that stresses active interpretation, and the role of memory in the viewer's mind, can allow also that art appreciation is hermeneutic. As explained above, the viewer's response may involve cultural, idiosyncratic, and imaginative associations. So "facts" here need not be facts: there is room for fantasy, too. Nor need there be a single interpretation that is "correct," or even "most appropriate": the individual freedom stressed by hermeneutic accounts is thus respected.

The indicative theorist, then, sees the appreciation of visual art as a matter of the (conscious and unconscious) manipulation of information. This approach can account for much of what goes on in the interpretation of fine art, as we have seen. And it also covers much of what goes on, for instance, when we recognize a Bernard Leach pot, a Charles Rennie Mackintosh chair, or a Gerda Flockinger brooch as being works by the hands of those particular makers, or as having stylistic qualities recalling particular cultures (think of Leach's Japanese influences, for example). But it doesn't capture the essence of craft works. Nor does it capture the psychological essence -- and the evolutionary significance -- of vision, and the other senses, as such.

iii: The impulse to action

The reason why indicative theories fail to give an adequate account of perception, or of craft, is the same in both cases. Our senses evolved not only to guide bodily action, but to prompt it.

Vision, for instance, leads not only to the information that "A tiger is approaching" but also to the imperative "Flee the tiger!". As for seeing a unicorn, or even a visual depiction of a unicorn, this could prompt the imperative "Stroke the unicorn" or at least the permissive "You might want to stroke the unicorn". Similarly, an observer seeing someone confronted by a tiger would naturally expect them to run away; and someone observing the virgin would naturally expect her to have some impulse to stroke the unicorn.

This "impulse to action" is unusual in the fine arts, and (when it occurs) is ancillary rather than essential. The Douanier Rousseau's tiger may cause some gallery-viewers to feel a frisson of fear, but only very rarely (if ever) would anyone experience an impulse to try to escape. And it's highly doubtful whether Rousseau, or anyone else, would judge this fearful reaction to be a criterion of the aesthetic value of the painting. The director of a horror-movie, of course, would specifically aim for such reactions. And presumably Bosch, in depicting Hell, was doing this too. But even for Bosch, the horror was not the prime object of the exercise: the associations with religious teachings on the nature of the good life, and the consequences of rejecting it, were more to the point.

Occasionally, an artwork's value may be judged partly by its success in arousing impulses to bodily actions of certain kinds. Some of Lord Leighton's canvasses, for example, depict silks and satins of such a rich and lustrous texture that one can -- and often does -- imagine reaching out and touching them, to feel their sensuous folds with one's fingertips or to lay them gently against one's face. But painting only rarely produces this sort of response.

Sculpture (normally regarded as fine art) more often invites one to touch the surface, especially if the piece represents or recalls bodily contours. This is one indication of the fact that

the distinction between "art" and "craft" can be unclear. For it is typical of craftwork in general that, since it is potentially functional, it engages one on a bodily level.

Fine textiles, for instance, from silken gossamers to rough-woven hessians, prompt one to feel their texture against one's skin. Moreover, this bodily engagement can involve not just touching and stroking the surface, but also other purposive actions -- such as hugging, draping, stabbing, and drinking.

A well-crafted teddy-bear naturally cries out to be hugged, and a good textile to be draped across our bodies or furniture. Similarly, a well-made cup or goblet naturally invites one not only to touch its surface but to pick it up and hold it in the attitude fit for drinking (think of the aesthetic inappropriateness of holding a goblet upside-down in "appreciating" it). And a well-made bowl naturally asks to be filled -- with food, or with other objects of appropriate size.

It's no accident that the crafts are more universal, and more ancient, than anything one might term "fine art." Craft artefacts are a part of daily life (eating, sitting, walking, dressing, courting, ordering, obeying, fighting ...), and are integrated with a wide range of bodily actions. Such actions are ultimately grounded both in our specifically human embodiment (two eyes, two hands, flexible fingers, etc.) and in our human sociality. And these two aspects -- embodiment and sociality -- are closely inter-related.

For instance, a teddy bear with shiny plastic in place of fur, and with no eyes or (worse) with three, would not naturally elicit a hug. It might not even attract, or anyway hold, the attention of the baby into whose cot it had been placed. Very young mammals (and even chicks) have an innate neurophysiological mechanism that causes them to "lock" their gaze onto things with two dark round blobs in a certain position and orientation [Johnson & Morton, 1990]. Newborn

babies, only seven minutes old, show an interest in such facelike stimuli. Their continued visual attention to human faces (most often, the mother's) leads to the learning of other facial features, and eventually to the discrimination of individual faces. In short, teddy bears are appealing because they naturally encourage us to act in "loving" ways. (Besides their large eyes, they have large heads: as Walt Disney's cartoonists are well aware, large eyes, large heads, and high voices naturally elicit our sympathies.)

Swords and daggers, by contrast, naturally arouse our interest to fight -- or, sometimes, to flight. They fit snugly into our hands; and they are perceptibly (sic) apt for attacking.

This enactive aspect of craftwork is not accounted for by indicative theories. The word "naturally" was appropriate in the preceding paragraphs because perception naturally, essentially, tends to lead to action. This fact is not stressed, and risks being forgotten, by psychological theories that treat vision and touch (for example) primarily as a way of gaining factual information.

Indicative theories allow, of course, that perceptual information is used to guide action. But the tacit implication is that perception is carried out first (in a psychological vacuum, so to speak), and action may take place afterwards. If the action can benefit from the earlier perception, being guided by the information thus acquired, all well and good. But the two are theoretically distinct. To be sure, no "indicative" psychologist would deny that perception has evolved in the context of action. The theoretical focus, however, is on the collection of perceptual information -- almost (to over-simplify) "for its own sake."

iv: Enactive Theories of Perception

In fact, perception evolved so as to prompt appropriate action, as well as to guide it. The psychologist James Gibson [1966, 1979] made this point by speaking of perceptual "affordances." According to Gibson's "ecological" psychology, perception does not inform us of bare facts, but rather affords possibilities for action.

A gap between the trees, for instance, will be perceived (by means of eyes, sonar, and/or whiskers) not as a mere gap but as a potential pathway. If the action -- crawling, flying, or running through the gap -- is likely to aid the creature's survival, then there will be a tendency for the relevant perception-action mechanism to evolve. In other words, the perception of a gap will tend to prompt the creature to travel through the gap, thus treating it as a pathway. A creature that has just perceived a tiger, so has already been urged to move to a different place, will be especially likely to follow the impulse to treat the perceived gap as a pathway. But the central point is that perceiving a gap always affords the possibility of travelling through it.

Similarly, certain bodily contours, and furriness, are naturally perceived by human beings as comforting, cuddly, or huggable -- which is to say that they will tend to be actively stroked, cuddled, or hugged. The unicorn in the tapestry, like the teddy-bear, is soft and apparently furry -- with two large eyes into the bargain. Small wonder, then, that we are prompted to stroke it. But we'd be even more likely to stroke a real horse, or a stuffed "unicorn" made out of a horse. The reason is not that we are intellectually (indicatively) aware that the unicorn is merely a tapestry, but that we are bodily (enactively) aware that it lacks the inviting (sic) three-dimensional contours and silky sleekness of the horse.

Affordances concern possibilities not only for physical actions, such as jumping or walking, but also for social actions -- such as mating, grooming, and offering food. The nestling's open

mouth does not provide the mother bird with action-neutral information that it is hungry but actively, even irresistibly, invites her to feed it. Analogously, bodily expressions of emotion in humans and other mammals are not thought of by Gibson as providing neutral information about the creature's emotional state. Rather, they are part of some integrated perception-action cycle that prompts, or at the very least invites, the other animal to approach, to comfort, to mate, to submit, to flee, or to attack.

In human beings, basic inherited mechanisms (such as smiling, frowning, or pupillary dilation) are overlain by culturally acquired behaviours. A wink, after all, is not just a wink: in our society, it may be an expression of friendship or complicity, or a sexual invitation. And it is effortlessly perceived in these ways: no conscious reasoning is needed. (This may not be true if the wink is a pre-arranged one-off signal between conspirators, for then one may actually wonder "Just what was I supposed to do when she winked at me?"). Still less is reasoning required to see that someone is happy. We rely for this "information" (which is, among other things, a licence to approach) partly on our innate response to smiles, and partly on our learnt discriminations between different types of smile -- even on this particular person's repertoire of smiles, grins, sneers, and lip-twitchings. (Hence the enigmatic nature of the Mona Lisa's expression: without knowing her as an individual, we can't be sure that she is smiling, nor what response her "smile" is inviting.)

(Gibson himself spoke of the "direct" perception of affordances, claiming that the psychological processing involved goes on without involving the higher levels of the brain. This aspect of his theory is highly controversial, even for cases where cultural learning is not involved [Gyr, 1972; Gibson, 1973]. If conscious deliberation is not required, it does not follow that no unconscious inference is needed. However, we may ignore this controversy here. The important

point is that we perceive possibilities for action -- never mind whether such perception is "direct".)

Not all affordances concern positive possibilities of action. For Gibson speaks also of "negative" affordances. A thicket of trees, for example, can be seen as an obstruction, as the absence of potential pathways. Similarly, a flimsy or top-heavy structure can be seen as unstable and/or incapable of offering firm support -- in a word, as unsafe. What is unsafe is, in general, actively avoided.

Negative affordances are evolutionarily important. A fox must be able to recognize both obstacles and pathways if it is to escape the hounds. And a gibbon or squirrel, leaping from branch to branch, has to avoid thin branches or twigs unsuitable for holding the animal's weight. Some of these affordances are innate. Extremely young babies, for instance, will refuse to move over a "visual cliff" (a sudden steep decline in the floor, covered by strong transparent glass).

In general, then, perception affords a (more or less limited) range of possibilities for bodily action. Clearly, a bat -- to choose an example by no means at random [Nagel, 1974] -- equipped with sonar and the power of flight enjoys affordances somewhat different from ours. But even bats respond to faces. And, crucially, the point here is not that bats can fly, but that bats are prompted to fly by certain types of stimulus.

Being prompted to do something, of course, is not the same as doing it. I don't know to just what extent the bat can inhibit its impulses to fly. Certainly, it can do so less efficiently than we (if we wish) can inhibit our own natural impulses to action. A grown man in our culture may hug a teddy-bear only, if at all, in the presence of the child whose teddy-bear it is. If he does inhibit his natural tendencies in this way, because of social conditioning, he will not fully appreciate the

aesthetics of the teddy-bear. Analogously, someone prevented by museum regulations from touching a seductive statue, or a beautifully rounded pot, will not fully appreciate its beauty either.

Gibson's theory of perception has steadily gained ground in academic circles since it was suggested over thirty years ago. It affords a rationale to certain sorts of enquiry in comparative psychology, since different species have evolved to recognize and respond to different affordances. And some neurophysiological evidence has encouraged this approach.

For example, forty years ago (before Gibson had developed his theory) the first "bug-detectors" were discovered in the frog's retina [Lettvin et al., 1959]. These are cells which respond specifically to the visual stimulus of a moving dark-light boundary of high convexity. Such a stimulus is likely to be produced by, and so "interpreted as", a living fly or other small insect. (A frog surrounded by dead flies is not able to see them, and will starve to death.) Indicative psychologists described these cells as registering the information that a living bug was present. The implication seemed to be that if the frog were hungry and "decided" to eat, it would use these visual feature-detectors to locate its food.

Later neurophysiological work, however, showed that the visual bug-detectors are nicely connected to brain-cells governing movements of the frog's tongue. Accordingly, the long sticky tongue automatically flashes out to the very point in three-dimensional space which corresponds to the point in the retina that is registering the "buggy" stimulus [Arbib, 1982]. In other words, the frog, considered as a whole organism, is naturally wired to generate the perception-action cycle of seeing-and-capturing edible objects. It doesn't have to "decide" to catch a fly, still less to make this decision and then gather -- or recall -- perceptual information as to the fly's location.

The perception just naturally instigates the fly-catching action.

In recent years, Gibson's approach has also influenced aspects of artificial intelligence and artificial life -- especially certain types of robotics [Boden, 1996; Wheeler, 1996]. Traditional robots are indicative to their very core. They use their camera-eyes and reasoning power both to locate objects and to decide whether, and how, to move them. Only then do they actually attempt to move them. This is all very well if the object is rigidly clamped to an industrial work-bench, or lying passively on the floor. But if it moves, even slightly, while the robot is working out its location and deciding what to do, then the robot's claw will miss it when it does attempt to act. In that case, the perception-reasoning-execution sequence must be started all over again. (Clearly, not a good evolutionary strategy in the presence of a prowling tiger.)

The newer ("situated") robots are more like the frog, in the sense that appropriate actions are automatically prompted by the appropriate environmental cues [Brooks, 1991]. Their positive and inhibitory "reflexes" are engineered, not programmed: no reasoning is involved. Beetle-like robots are being developed, for instance, to be sent in squads to clean sewer-pipes. They can climb over (many) obstructions, and in general can be left to "do their own thing" without being monitored, still less instructed, by a human being.

(That's not to say that today's situated robots are as successful, for industrial engineering purposes, as traditional robots are. Indeed, it's highly controversial whether this general approach can in principle generate interestingly flexible action [Kirsh, 1991]. Really accomplished robots -- like people -- may need thought as well as perception.)

These Gibsonian robots are currently arousing interest in the art world (as installation art, for instance), and cyberspace versions are blossoming within virtual reality [Grand & Cliff, 1998]. In

addition, they are being applied in toy-design. Furry toy dogs are being developed in Japan that will not only walk but also climb over (a limited range of) obstacles, and learn a number of "tricks" such as turning their heads towards their owner's voice and obeying simple commands. The teddy bear who will "naturally" lock his eyes onto yours, while you naturally lock yours onto his, is not far away.

Irrespective of such "aesthetic" applications, however, the Gibsonian theory of perception helps us to understand what is distinctive about the crafts.

v: Crafts and Bodily Action

The crafts are grounded in, and deliberately evoke, "enactive" (non-indicative) psychological mechanisms. Not only are their artefacts typically functional, but many of the functions concern basic aspects of life and domesticity, such as eating, drinking, cooking, mating, and keeping warm. The bodily actions associated with such functions have their roots far back in human history, and some in human biology too. The distinctive aesthetic power of craftwork cannot be understood unless this is realized.

It is this enactive aspect which explains our handling of the goblet, our touching of the textile, and our sensuous stroking of the body-contoured carving. It accounts for our urge to recline on the pile of silken cushions, to stab aggressively with the dagger, and to hold and swing the heavy jewelled sword. And it even explains our impulse to approach -- or respect, or fear -- the person adorned with "decorative" jewellery or body-painting.

Ceramics, textiles, carvings, metalwork, jewellery, millinery ... all these give us artefacts that can enter intimately into everyday human life. They arouse affordances of many different kinds,

both "bodily" (such as drinking or sitting) and "social" (such as stroking, hugging, fearing, or respecting). As remarked in Section iv, Gibson's theory allows for both these classes of elicited action.

Just as facts can be learnt, so affordances can be learnt too. I've remarked (in Section ii) that someone interested in fine art can learn that a dove -- in a certain type of painting -- represents the Holy Ghost. Correlatively, someone encountering the gold collars of the Viking chiefs, or the orbs and sceptres of the British monarchy, can learn that -- in the relevant social context -- these craft pieces signal status of a certain kind and demand active obedience and/or respect of a certain sort.

Such ceremonial objects are not "purely" decorative. That is, they do not merely delight the eye. Indeed, even the most inexpensive beads and bangles are not purely decorative either. Their colours, textures, and forms naturally engage the attention both of the wearer and of others -- and that, at base, is the point. Cultural messages are received too, of course. That is why each of the two most popular soap-operas on British TV can signal the personality and social status of a main character by getting her to wear a succession of outrageous ear-rings. In short, a bead or a bracelet is naturally perceived as a move in a subtle game of social interaction. This aspect of its aesthetics can be deliberately ignored, much as the huggability of the teddy-bear can be suppressed by adult males. But no competent jeweller would do so.

Some craftworks even extend our sense of the possibilities of the body, by reminding us that certain familiar bodily actions could -- just -- be achieved in highly unusual ways. Think of a "crazy" hat, for instance, or a gondola-shaped glass perfume-bottle. And the oblique-stemmed goblet mentioned in Section i, besides affording drinking, reminds the user forcefully of the care

one must always take in avoiding spillage and in handling so fragile a material as glass.

Occasionally, a "useless" artefact playfully challenges our expectations by offering negative affordances as well as positive ones. A water-bottle made of icing-sugar, or a vase with a pinhole-hollow, are of no practical use. And the drinker who relies on a flat-rimmed goblet will die of thirst. But besides (perhaps) having beautiful colours and/or contours, such objects remind us of the normal range of action afforded by the relevant types of thing.

In short, the crafts not only exploit the possibilities of the body, but often help us to see them more clearly and/or more imaginatively.

vi: The Inevitability of Borderline Cases

Since human perception is fundamentally enactive, it follows that fine art, too, is in fact produced and appreciated by basically enactive psychological mechanisms. This accounts for the (perhaps rare) occasions where someone shivers in fear at Rousseau's tiger, or recoils with disgust at Durer's serpent or Bosch's hellish monsters. And it explains the frequent sensuous response to Leighton's painted silks.

But fine art in general (and abstract art in particular) does not specifically aim for this type of response. Accordingly, art-criticism does not stress it either. This is why indicative accounts of vision (and memory) can capture a great deal of what is going on in the fine arts.

No-one would regard the canvasses of Bosch or Leighton as lying on the art/craft borderline. On the contrary, they are paradigm cases of "art." For it's crystal clear that their main intent is not to prompt us to bodily action, still less to produce a functional object for daily use towards some

practical end. The fact that these canvasses may actually elicit a shiver of horror, or a wish to touch the "satin," does not invalidate that insight.

The "action-filled" paintings of Pollock are an interesting case. (I owe this example to Michael Wheeler.) One might say that they "work," at least in part, by exploiting the sensitivity of our enactive perceptual mechanisms to the kinds of effects in the visual field that suggest movement. In Pollock's abstract art, this movement cannot be attributed to anything represented in the picture, such as a waterfall or a dancer. It can be attributed only to the flying (and dripping) paint and/or to the artist who threw it onto the board in the first place. For someone who happens to know something about Pollock's painting-technique, the latter attribution will naturally be enforced. In short, the aesthetic effect of the work depends partly on the viewer's natural inclination to perceive movement and the active origin of movement -- abilities that are emphasized more strongly in Gibson's theory than in indicative accounts. Unlike Leighton's painted silks, however, Pollock's work does not directly prompt action on the viewer's part. At most, it may (indirectly) lead viewers to imagine the artist's action, and perhaps even to imagine acting in that way themselves.

Although none of these three examples is a borderline case of art/craft, they do show that the associative (indicative) mental processes that are necessary for the appreciation of fine art can go on at the same time as (enactive) perception -- or, at the very least, that both types of psychological process can be elicited by one and the same artefact. It's only to be expected, therefore, that there will be some cases where the two types are roughly equal in strength. That being so, it is in principle possible for an artefact to be deliberately made so as to prompt indicative and enactive responses in broadly equal measure. In such cases, we will find it especially difficult to pigeonhole the work as either "art" or "craft." Either classification would be

largely arbitrary, because our psychological engagement satisfies criteria of both categories.

Consider, for instance, a large hand-printed and embroidered silken wall-hanging, a collage based on the themes of "music" and "Venice." The item that I have in mind affords a sensuous beauty, inviting the viewer not only to revel in the delicate colours but also to stroke the silks, trace the metallic threads, and feel the contrasting textures. It's a beautiful, and highly skilled, piece of craftwork.

However, it also leads the viewer to thoughts of Venetian music, music in general, Venice as an architectural delight, and the inevitable demise of political power. For example, one small part of the hanging bears a fragment of Shakespeare's song "If music be the food of love," another an excerpt from a biography of Vivaldi, another a depiction of a lute. Someone who doesn't recognize these, or who fails to see their relevance to mid-millennial Venice, won't realize the full aesthetic potential of the piece. They can still appreciate it as an elegant craft object, but not as a celebration of the power that music affords in human lives, nor as a reminder of the role that Venice has played in European culture but plays no longer. That is, they fail to see it as a piece of fine art.

In fact, it is both. The person who designed it (my daughter) intended to explore, to remind, to stimulate, to surprise -- all characteristics of art. She also intended to make a decorative object for use in a domestic setting, which would be viewed and handled with sensuous delight -- all characteristics of craft. If the human mind were not capable of appreciating one and the same object in all these ways, she could not have achieved both goals. The goals are compatible, but their psychologies -- and their aesthetics -- are different.

Another example of an arts/crafts enterprise that depends on a "mixed" psychology (in both

maker and viewer) is the work of the ceramicist Andrew Lord. As a potter, Lord revels in the intimate relation between his own bodily actions and the clay. His pots remind viewers of this relation, and prompt them to touch as ceramics typically do. Moreover, he bases his work on familiar traditional forms, drawn from Mycean, Delft, and pre-Columbian pottery. For sure, then, he is a skilled craftsman.

But he is also an artist. Despite their provenance in domesticity (jugs, bowls, plates, vases ...), most of Lord's pieces are very large, even man-sized, so are not usable in practice. They're also too expensive to be used: they are exhibited in galleries of "art" rather than "craft," and fetch high prices accordingly. The reason they are regarded as art by the galleries concerned is that they satisfy the criterion mentioned in Section i: "often, the artist explores the possibilities of particular art-styles in a disciplined fashion, sometimes transforming them so as to generate items that were previously unthinkable."

Lord does not make individual pots: rather, he makes collections of pots. Each of these comprises at least five objects, based on a "form-palette" of twenty-seven basic shapes. His work involves systematic exploration of the stylistic possibilities inherent in these shapes. Any one collection is both internally coherent and coherently related to every other collection based on the same set of underlying forms.

Sometimes, for example, Lord tries to recreate a specific art-style (such as Cubism) in all the pots. This is comparable to representing the alphabet in different fonts: each font must be recognizably different from the others, while each letter-token must resemble all the others within the same font. Much as the letter "I" is more difficult to vary than the letter "R," so a plate is arguably more difficult to vary than a jug. (For some intriguing ideas about the psychological

processes involved in this sort of exercise, see the discussion of "Letter Spirit" in [Hofstadter, 1995].) Sometimes, he tries to represent, in three-dimensional form, the way the light falls at different times of day. And sometimes, he moulds each pot-collection with a particular body-part (fist, eye-ball, chest ...), emphasizing the origin of the pots in his own bodily activities.

A person may be irresistibly led to caress the surface and contours of Lord's pots, and to exult in their subtly coloured glazes. They may recognize them as versions of traditional forms, such as a Delft jug or a pre-Columbian bowl, and see that some (at least) are functional. And they may be able to decode the imprints of fist or eye, and to picture the potter's clay-moulding in the process. Such a person can appreciate the craft-aesthetic of Lord's work. But only if they can see "what he is up to" in his inter-related collections, and appreciate the extent to which he succeeds or fails in adapting these styles in creative ways, will they be able to appreciate his work also as art.

In this case, as in the example of the wall-hanging, a particular viewer may not be able to appreciate both the aesthetics that are implicit in the one artefact. Someone catapulted into our culture from another might (enactively) appreciate all Lord's ceramic objects as craft pieces. That is, they might recognize a jug as such, and even try to pick it up by its handle, without knowing that it is Delft-based or Mycean. But they could not see these pieces also as art, because so many of the (indicative) associations involved would be missing.

The converse situation, in which someone could see the pieces as art but not as craft is less likely. For their craft status relies on widely (even universally) shared bodily responses to the physical aspects of the work.

vii: Summary

The aesthete's "Art for art's sake" is like the psychologist's "Perception for its own sake." Both slogans sum up attitudes that civilized human beings can consciously decide to adopt. But neither is faithful to our fundamental psychology.

Indicative theories of perception (and memory) encourage fine artists to look down their noses at the crafts because -- shock, horror! -- even highly decorative craftworks are potentially useful. For on this view, use -- and indeed action in general -- is essentially distinct from information, even though it is guided by it. And information is the name of the art-game.

By contrast, an enactive theory of perception helps us to understand why a prime aesthetic attraction of the crafts is their close engagement with the varied possibilities of bodily action.

However, this psychological distinction does not offer us a hard and fast line between art and craft. Since indicative and enactive processes can be elicited by one and the same object, mixed cases of art/craft are possible. Inevitably, some designer-makers will choose to work in a way that deliberately exploits this fact.

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