Dichotomies: An alien perspective

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ABSTRACT

This paper explores the implications for sexual asymmetry of the human predilection for construing events on the basis of hierarchically organized dichotomous constructs (e.g., same/different; male/female; good/bad). Illustrations of the influence of binary cognitive structuring on the practice of social science, including feminist scholarship, are presented. The inescapable susceptibility of theory and empiricism to prevailing cultural ideologies suggests that the question of sexual equality is antinomal—not open to empirical resolution. Rather, science might better serve the species by actively promologating civilian values, values that cherish and revere within species diversity.

RESUME

Cet essai etudie les implications de l'asymetrie sexuelle de la preference humaine pour analyser les evenements bases sur des elements de dichotomie planifies de facon hierarchique (ex.: similaire/different; homme/femme; bon/mauvais). Des illustrations sur l'influence de la structuration de connaissance binaire de la pratique de la science sociale, incluant les bourses d'études feministes, sont presentees. La susceptibilite inechapable de la theorie, et l'empirisme de prevalevoir les ideologies culturelles suggere que la question de l'egalite sexuelle est sans nom-fernee a toute resolution empirique. Plutot, la science devrait mieux servir les especes en faisant valoir activement les valuers civiles, valuers qui sont nourries et venerees a travers la diversite des especes.

In Ursula Le Guin's (1969) science fiction novel, The Left Hand of Darkness, we encounter a race of beings, the Gethenians, who are ambisexual. Every species member has the potential to perform either male or female functions in reproduction. When in "kemmer" (in heat) one partner of the sexually interacting pair assumes the female condition, the other the male. Any individual may mother or father offspring in different copulations. Sex-role stereotypes, rape, oedipal complexes, a sexual division of labour and the like are unknown in this society.

What impressions does a Gethenian tourist form of Homo sapiens once over its initial distaste at the perversion of two sexes? Validating George Kelly's (1963) personal constructs theory, our Gethenian visitor is flabbergasted by the human predilection for dichotomous thinking. It seems to the Gethenian to be sine qua non of human existence. Kelly hypothesized that the thought processes, or in modern parlance, the cognitive schemas, involved in humans' interpretation of events are based on dichotomous constructs organized or structured in ordinal (hierarchial) relationships.

Deeply puzzled by this terran peculiarity, the Gethenian probes further and perceives that a "same/different" dichotomy occupies a supraordinate position in the hierarchial structure. As Tversky (1977) has noted:

the similarity [difference dichotomy] plays a fundamental role in theories of knowledge and behaviour. It serves as an organizing principle by which individuals classify objects, form concepts and make generalizations (p. 327).

Especially shocking to our Gethenian traveller is the realization that a sex dichotomy constitutes the second rung of the hierarchical ladder. The pervasiveness and ubiquitousness of the sex dichotomy as another major organizing principle in human societies (Bem, 1981) could hardly escape notice. Equally fascinating is the human penchant for typically clustering certain other dichotomies under the sex rubric; for example, many of Norman Mailer's male fictional characters, and presumably Mailer himself, subsume male, good, superior, dominant and aggressive below the supraordinate "same" category while nestled under the umbrella of the different category are found the opposite poles of these dichotomies, female, bad, inferior, subordinate, passive (Millett, 1970). Studies of sex stereotypes reveal great commonality in the way individuals combine concepts related to the sex dichotomy (Broverman, Vogel, Broverman, Clarkson & Rosenkrantz, 1972).

Explanatory Systems

Confused by such oddities, the Gethenian seeks enlightenment from the social science literature. Why is the sex dichotomy preserved in (or generalized to) so many seemingly unrelated facets of human existence and why is the position of one sex so consistently subordinate? It finds biologically based explanations—focusing on hormonal distinctions (Broverman, Klaiber, Kobayshi & Vogel, 1968); or extrapolated from speculation about the course...
of human evolution (Tiger, 1969); or anatomical/structural differences such as (a) the presence or absence of a penis (Freud, 1974) or (b) the genetically determined size of sex cells (Dawkins, 1976) or (c) the inner space feature (Erikson, 1974) or (d) functional differences in brain laterality (McGlone, 1980) or derived from religious accounts of the creation of the species, the deity constructed Homosapiens such that males have a divine right to dominate (McLaughlin, 1979).

The Gethenian also uncovers environmental explanations, another instance of the dichotomizing bias. Aggregated under the environmental pole are economic models such as the invention of private property and a capitalist mode of production (Deckard, 1979; Smith, 1983); historical explanations such as the emergence of a patriarchal social structure (Eisenstein, 1981); demographic orientations emphasizing sex ratios (Guttentag & Secord, 1983); educational interpretations, known in the vernacular as social learning theory, which argue that male hegemony and female subordination are instilled through socialization in each new generation (Mischel, 1966) and, finally, it discovers object relations theory which focuses on early infant experiences of separation from the mother (Chodorow, 1978; May, 1980). Musing briefly over this last model, the Gethenian ponders the relevance of the self/other split, the me/not me distinction, to the human enthusiasm for dichotomizing.

The Empiricism

Nonplussed with the simplicity and insularity of these one-cylinder models as well as their variety and disparity, the Gethenian adopts a logical positivist approach and decides to let the facts speak for themselves (Howard, 1985). A careful scrutiny of the empirical literature should allow selection among these competing theories. The Gethenian has no trouble finding empirical support for its initial observation of the clustering of dichotomies; of the asymmetry of the sexes. Any women's studies text provides abundant examples of the association between the female category and the subordinate and/or inferior and/or bad categories (Greenglass, 1982; Mackay, 1983). But can this literature resolve the competing theories issue? As Howard (1985) remarks, the empirical facts can support a multitude of incompatible theoretical positions and, the Gethenian adds, vice versa.

This point is brought home most forcibly when the Gethenian encounters a biologist and an environmentalist both describing the same bit of empiricism—specifically the findings of Money and Ehrhardt (1972). These authors studied 25 genetic females who were exposed prenatally to heavy doses of androgen which resulted in a hermaphroditic condition, the adrenogenital syndrome. Corrective surgery was performed and the infants were raised as females. Money and Ehrhardt compared this clinical group with a matched control group.

Wilson (1978) describes this research as follows:

Did the girls show behavioral changes connected with their hormonal and anatomical masculinization? As John Money and Anke Ehrhardt discovered, the changes were both quite marked and correlated with the physical changes. Compared with unaffected girls of otherwise similar social backgrounds, the hormonally altered girls were more commonly regarded as tomboys while they were growing up. They had a greater interest in athletic skills, were readier to play with boys, preferred slacks to dresses and toy guns to dolls. The group with the adrenogenital syndrome was more likely to show dissatisfaction with being assigned to a female role...

So at birth the twig is already bent a little bit—what are we to make of that? It suggests that the universal existence of sexual division of labour is not entirely an accident of cultural evolution (1978, p. 132).

Mackie (1983) in summarizing the same research reports:

The researchers found that the fetally androgenized females were more interested in masculine clothing, games and toys. Although they regarded themselves as female, they were considered by their mothers and themselves to be tomboys. In comparison with the control group, these subjects were less interested in baby-sitting and future marriage as opposed to careers. Interestingly, no greater incidence of physical aggression was reported. Money and Ehrhardt concluded that the male sex hormone had had a masculinizing effect. However,...their behaviour is within the normal range for females in our society and further,...female gender identity is not seriously disrupted by the presence of prenatal androgens (1983, p. 78-9).

In the first account of this research the meagre empirical bits with their fuzzy surround are linked into an interpretive pattern supporting a genetic biological determinist position. Mackie weaves the same empirical bits into a cultural determinist tapestry. The point is that most subsets of empirical checkpoints, given their scarcity and
ambiguity can be successfully soldered to support even diametrically opposed theoretical frameworks. Thus, the Gethenian finds itself in full agreement with Stark-Adamec and Kimball (1984), reliance on secondary sources is risky business indeed.5

The Gethenian discovers that the problem extends beyond simply the amenability of empirical bits to myriad interpretation. Empirical data themselves are painted (or tainted) with hues from the theoretical spectrum. That is, prevailing ideologies actually function to produce supporting empiricism (Eagly & Carli, 1981; Pyke, 1982; Shields, 1975).

**Garbage Disposal Mechanisms**

Given the difficulties of assessing these competing theoretical models on the basis of the "facts," the supporting empiricism, the Gethenian examines the differential ability of the theories to handle conceptual and empirical garbage. How do they deal with disconfirming instances—the false positives (the superior, dominant female) and the false negatives (the inferior, subordinate male)? In Homo-sapiens culture, the Gethenian discovers, the vast array of disconfirming instances present no great difficulty. They are ignored for the most part or dismissed by application of the simple adage, "the exception that proves the rule" (the inherent illogic of the statement notwithstanding). As an illustration of this excellent garbage disposal mechanism, consider the following distorted syllogism:

All women are inferior and subordinate.
Some women are not inferior and subordinate.
Such women are exceptions that prove the rule.
Therefore all women are inferior and subordinate.

As example after example of the shaping influence of ideology on empiricism falls under its purview (e.g., Agnew & Pyke, 1987; Pyke, 1982), the Gethenian decides that the mysteries of Homo sapiens society and its organization around the sex dichotomy resist unravelling with either conceptual or empirical needles. The Gethenian concludes as do Smith (1983), Howard (1985), Lott (1985), Kuhn (1970), Fee (1981), and Bleier (1984), that human science is a far cry from its advertised claims of impartiality and objectivity—a value-free enterprise it is not.

**Science and Dichotomies**

More importantly perhaps, the Gethenian discovers that the very fabric of human social science is textured by the reductionism inherent in the human cognitive bias for binary thought. To illustrate the operation of the bias, consider the following.

In all measurement theory, a fundamental distinction is the same/different dichotomy. All forms of measurement assume that the conditions for the nominal rule are met (i.e., that the data permit the application of same/different labels). Specific statistical tests such as the t-test, chi-square and correlation are all designed to provide an index of same/different. Preferred research designs involve testing extreme groups and ignore the majority who fall in between the extremes. Excluding the middle is another excellent strategy for avoiding empirical garbage. Between or within subject variance which cannot be accounted for by manipulation of the independent variable is termed "error variance." It is error or garbage because it can not be neatly processed in the dualistic mode. The law of parsimony and the single-principle imperialism referred to by Koch (1981), derive appeal from their isomorphism with simplistic dichotomous thought. Indeed many of the cognitive pathologies described by Koch (1981) so evident in the conduct of psychological science, may owe their popularity to the human preference for dichotomizing. At a metaparadigmatic level, the nomothetic orientation in science is more clearly congruent with dichotomous cognitive structuring than the non-linear, multidirectional, dialectic tradition of the idiographic approach (Marceil, 1977).

**Feminist scholarship**

Feminist scholars, of course, have not been unaware of the consequences of binary cognitive processing. Lott (1985) draws attention to the inappropriate translation of small average sex differences into dichotomies. Constantinople (1973) attacked the bipolarity assumption of the masculinity/femininity constructs. After a short role as prima donna on the feminist stage, androgyny has succumbed to assaults from those recognizing her reification of the very dichotomy she was designed to transcend (Bern, 1981; Pyke & Graham, 1983). The nomothetic character of the bulk of sex difference research in which context and situation variables are ignored has been well documented (Lott, 1985); and Sandra Bern (1981) specifically addresses the issue of the human cognitive bias for dichotomizing in her gender schema theory.

Yet, a feminist vaccination does not fully inoculate against dichotomizing. Smith (1983) accuses feminist scholars of falling prey to the same reductionism so obvious in sociobiology. Exhortations to employ new sources of information in research and to apply new
methodologies, however laudable, continue to be couched in dichotomous forms (i.e., agentic methods versus communal methods). Even the research corpus itself dissects neatly into a same/different rubric (Lott, 1985). One section of feminist scholarship focuses on the "same" end of the dichotomy, striving to illustrate that females are not different from males (e.g., Maccoby & Jacklin, 1974) while the contrasting section emphasizes the differences between the sexes (e.g., Gilligan, 1982). Both schools tend to ignore within group variance.

Bored by the antediluvian binary conceptualizations of Homosapiens and appalled by the "dystopian nightmare" of the human condition (Schwechart, 1983), with it's double evils of nuclear holocaust and/or planetary pollution, the Gethenian tourist decides to spend the rest of its holiday exploring the Great Nebula in Andromeda. As the Gethenian reads its ship for departure, it muses on the sex issue. The asymmetry of the sexes, it decides, is not a scientific issue. The question of women's appropriate status, or role is antinomal, not open to empirical resolution. Rather, the subordinate status of females is a function of the barbaric human value system combined with the limited capabilities of human thought, the tendency to edit or oversimplify through dichotomizing.

The primary issue revolves around the nature of the culture that Homosapiens want to establish. Given their garbage—pollution, the bomb, the daily atrocities of discrimination, prejudice, intolerance, rape, muggings, child and wife abuse, murder, extortion, terrorism, grinding poverty, ignorance, over-population and urban crowding, humans clearly do not have a civilization of which they can be justly proud. Indeed, they may not even have a viable civilization. Still, given their value structure and disaffection for the complexity of non-dichotomous thought, humans probably have the science and the society they deserve.

A Mandate

However, the Gethenian finds solace in the observation that a capacity for non-dichotomous thought exists, that humans can conceptualize utopian visions—other ways of thinking, feeling and behaving (Schweickart, 1983). The Gethenian encounters unexpectedly rich and sophisticated representations of reality as it explores individual passions and enthusiasms. Reserved for the treasured aspects of one's life experience (e.g., philately; chess) are complex, non-dichotomous schemata. Reassuring, too, is the emerging and strengthening awareness of the debilitating correlates of simplistic cognitive representations (Beck, 1976; Linville, 1985). Another note of optimism resonates from the budding legitimization and implementation of a feminist philosophy of science generating research that is futuristic; that triangulates rather than bifurcates; that eschews dualisms; that examines interactions as opposed to fixating on main effects; that is ethical, adhering to the principle that the end doesn't justify the means; that investigates phenomena in context, not in isolation; that recognizes the role of ideology and bias; that respects the validity of personal experience; that is precise in its language and generalizations; that is concerned with understanding and appreciation rather than mastery and control; that is not wedded to a simple cause and effect paradigm; that refuses to artificially compartmentalize or hierarchically structure phenomena; that adopts a long-term perspective; that is process oriented (Bleier, 1984; Deaux, 1984; Lott, 1985; Wallston, 1981).

Most promising from the Gethenian's perspective, are the hints that Homosapiens may be gradually realizing that there are merits in the deliberate incorporation of values into scientific pursuits (Howard, 1985; McCormack, 1981). The overt politicization of science is essential if an egalitarian society is to be achieved, or indeed if the species is to survive at all given its teetering position on the brink of planetary destruction. The goals of science must be used to advance values, to inculcate values, to promulgate values, but not values based on the primitive dualisms so abhorrent to the Gethenian but rather civilian values—values that cherish the infinite uniqueness of humanity; that respect within species diversity. As Howard (1985) so cogently put it:

By viewing humans from an unduly narrow perspective we may diminish rather than expand humans' potential as individuals and as a species. Our challenge, then, is to construct a science of humans built upon an image of humanity that reflects and reveres human nature in all of its diversity, complexity and subtlety (p. 264).

In a similar vein, the Psychology of Women Division of the American Psychological Association records that among the characteristics of feminist scholarship is the promotion of a benevolent society in which individual self-actualization is possible (Lott, 1985). This, then, is the mandate: women may be best equipped to implement it (Bakan, 1966; Chodorow, 1978; Gilligan, 1982) and must succeed because the consequences of failure may be no less than the total annihilation of the species.

The last transmission received from the Gethenian space vessel demonstrated that some acculturation had occurred. As its ship winked out, the Gethenian was heard to mutter, "Dichotomies suck!"
NOTES

1. Portions of this paper formed part of an invited address at the Institute for Women and Psychology. Canadian Psychological Association Annual Meeting, Halifax, 1985. The author would like to acknowledge the contributions of Professors Neil Agnew and David Bakan to the development of some of the ideas presented.

2. Pyke and Graham (1983, p.4) suggest that, "perhaps Homo sapiens has evolved an innate capacity for abstracting and categorizing (reminiscent of Chomsky's [1959] language-acquisition device)." To explain why the sex distinction has assumed such a pivotal position they note, "it could be argued that a sensitivity to stimuli related to reproduction would have survival value for the species and thus be favoured in the process of species evolution" (p. 4).

3. Money himself adopts the environmentalist position that psyche dominates soma. "The evidence of hermaphroditism, then, shows that it is possible for psychosexual differentiation to be contradictory of chromosomal sex, gonadal sex, hormonal sex, external genital sex, and internal genital sex, and to agree instead with assigned sex" (Money, 1963, p. 56).

4. Even a desultory discussion of the "specific" values science ought to advance lies beyond the scope of this paper as does a consideration of the underlying decision process involved in any value(s) selection. However, it seems clear that the ethos of self-contained individualism which permeates much of psychological science (Sampson, 1977) must be tempered with a more collective, interdependent perspective (reflecting the communal modality described by Bakan) if civilizational values are to be successfully pursued.

REFERENCES


MARY OF THE ROSES

Oh, I know we see her small, almost a child, one more forgiving victim, but suppose it was not like that at all. Suppose she was a tall woman, let's say six foot two, and built like a Michelangelo statue, hands thick as potatoes, with veins like great rivers.

Suppose she had seen what the little boys wagged behind the bushes, and could roar like a lion at a good joke, her laughing hair shaking all the way to her knees.

Suppose her back was tough as bark, sunbranded dark as the blood rose. Not like the painted white ladies in museums with skins soft as wet napkins. As she balanced a full jug on her head she sang with a knowing kind of woman sadness and danced with big wide feet and big wide hips and big loose joints so the water swirled round and round in the clay, now and then catching the air with its wings.

And one day her eyes rebellious and black as ripe grapes while hauling water from the stream she lifted her skirts to fan herself a bit, and seeing she was alone slipped off her clothes and stepped into the current, letting her laughter roll out of her mouth like thunder, letting the river roll over her back wetting the springy tendrils of black hair at the sweaty nape of her neck.

And suppose the angel was sent thirsty and fainting over all the earth, searching for someone who could love without anything miraculous about it, woman of the ordinary shoes, and there by the stream he found her startled, laughing, naked rising unashamed from the water, her breasts like suds slipping wet over her folded arms, and he cried out with love for her, and the sound of his cry filled the desert with roses.

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Iowa