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A SEARCH FOR INFORMATION MAN

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ABSTRACT

This paper examines the notion of 'information man' by analogy with 'economic man' and seeks to discover how the concept has been used implicitly in user studies and bibliometrics. The conclusion is reached that a primitive conception of information man is to be found in such studies and the reasons for this are examined. More sophisticated versions of information man are seen to be emerging from some recent work.

INTRODUCTION

At various stages in the development of an academic discipline it becomes necessary to attempt a re-examination of observed trends and preoccupations as a preliminary to re-affirming, or re-stating, the major concerns of the discipline and establishing agreement regarding the main lines of attack upon what are perceived as central issues and problems. The numerous conflicting and contending contributions to the debate on the province and nature of information science indicate that information scientists are aware of their responsibilities in this respect. The range, diversity and opposition of views expressed by the many contributors to this debate are not unusual, or peculiar, to information science. Many academic disciplines have undergone, and are still undergoing, similar phases of uncertainty and disagreement regarding their identity and purpose. This widely shared developmental characteristic may be made to stand for more than a commonplace observation on the progress of academic disciplines. Its occurrence in a broad range of academic disciplines may be used to advantage in a search for development parallels, or similarities, which may provide novel perspectives from which to view progress in various areas of information science. Of course, novelty, of itself, is not an adequate reason for undertaking such a comparative study. In this instance, however, novelty may come to be associated with a realization of the intellectual insularity of information scientists and the consequent need to relate our discipline more closely to the mainstream studies of the social sciences.

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ECONOMIC MAN AND ECONOMICS

Economics would seem to offer promising ground for just such a search. As a social science discipline it has a long history of systematic intellectual development punctuated by intense debates about the nature and significance of economics (see, for example, Robbins, 1935; Viner, 1963; Worswick, 1972; Phelps Brown, 1972; Grampp, 1973). That the state and status of economics is still a matter of debate offers an obvious parallel with the preoccupation of information scientists with such matters, despite the different ages of the disciplines. Although the continuing debate is indicative of unresolved issues none the less certain advances may be claimed. In particular economists have improved their treatment of their basic unit of study—the individual, or, economic man—for theoretical and applied purposes. In this development there may be interesting lessons for information scientists.

The formative phases of economic theorizing, at least in Western industrialized societies (Cohen, 1967; Wilczynski, 1981:161), were associated with the concept of economic man, the cause and consequence of economic activity. During the earliest periods economic man was 'a relatively low-level abstraction thought to be descriptive of human nature. This description stressed self-interestedness, the securing of pleasure and the avoidance of pain, and rational calculation based on excellent knowledge of market conditions' (Gould and Kolb, 1964:223). The application of deductive methods (Viner, 1963:10) to this improbably simple model of an individual confronted by economic necessity with the need to make choices produced theoretical advances and contributed to the establishment of the scientific claims of classical economics.

As it grew more difficult to reconcile the supposed behaviour patterns of economic man with those observed, and as the need for more elaborate economic models became apparent, economists came to view their basic unit of study, the individual, as a more complex character. Even in economic matters it was evident that individuals were motivated by other than economic considerations. This complexity of character was developed until economic authorities could claim that 'they deal with man as he is: not with an abstract or "economic" man: but a man of flesh and blood' (Marshall, 1920:27), and that 'economic man is only an expository device—a first approximation used very cautiously at one stage in the development of arguments which, in their full development, neither employ such assumptions nor demand it in any way for a justification of their procedure' (Robbins, 1935:97). The theme is continued by later writers—'there never has been an economic man, even in economics, except as far as a very first approximation, and by means of the indifference curve analysis economics has increasingly liberated itself from any narrowness of assumption' (Boulding, 1968:5). However, classical economic man retains his usefulness at the expository level, allowing of the treatment of the simple before the complex, and for application to certain types of economic analysis (Gould and Kolb, 1964:223; Cairncross, 1973:10).

From this point of view it appears that economists, in order to understand and explain economic behaviour, were compelled to recognize the limits of simplistic assumptions 'not checked inductively for validity' (Viner, 1963:10) both for theoretical and practical purposes. As a consequence they developed models of economic behaviour, individual and aggregated, which reflected more closely observed realities. Of course, even in this elaborated form

economic man remains an abstraction, but, since analysis is impossible without abstraction (Kaldor, 1975:347), the closer approximation to experienced behaviour may be expected to produce results of greater utility. In this the complementary roles of deduction and induction may be recognized.

INFORMATION MAN AND INFORMATION SCIENCE

Progress from conceptual simplicity towards greater complexity is a path followed by all academic disciplines. It would be perverse not to expect information science to follow the same course as economics in this respect. Of greater interest to information scientists, however, is the evidence of the power of analysis made available to economists, initially by the adoption of a set of simple assumptions about economic behaviour and, later, as circumstances demanded, by the shift to more realistic behavioural assumptions. This analytical device, or approach, was one factor which enabled economics to 'exhibit the marks of the history of a true science, in that it exhibits an orderly development towards greater and greater generality', so that 'older theories can easily be formulated as special cases of the more general modern theory' (Boulding, 1968:4). It follows, too, that the use of more realistic models of economic man increased the factor of predictability when employed in the study of probable actions through aggregated economic phenomena.

Could a comparable idea of information man be employed by information scientists as a tool of analysis with similar results? There are grounds for treating any such idea warily. Behaviour, in economic terms, usually has measurable consequences in terms of money, whereas consequences of information behaviour are rarely reduced to such easily understood units of measurement. The definitional elusiveness of the information concept, as viewed by information scientists, has no counterpart in economics and the delimitation of economic concerns seems a more straightforward task than in the world of information. Intuitively there is the feeling that economic and information behaviour are dissimilar, although information is central to the idea of economic behaviour. Superficially, the variety of known information environments, too, suggests that there is no single, generally applicable model of information man available for the analytical tasks undertaken by information scientists. Nevertheless, despite such qualifications, it remains that certain types of information research require that aspects of information behaviour be investigated. It is difficult to address such problems without adopting, either overtly or implicitly, *some* assumptions about information behaviour. In other words, a form, or model, of information man, however limited. The question to be answered is not whether information scientists have employed information man, but rather how, and to what effect, such a concept has been deployed. To the recognition of the existence of information man may be added the similarity of the fundamental unit of study of both disciplines—the individual. Information man, too, operates in environments characterized by scarce resources—human, financial, material—and is constrained to make choices. Further, information behaviour, like economic behaviour, necessarily implies interactions of various descriptions indicating a parallel concern with individual, aggregative and interactive forms of study. On balance enough to encourage a search for information man.

What characteristics distinguish information man for us? On an analogy with classical economic man primitive information man might be expected to display the following behaviour patterns:

1. Indulging in rational information acts, i.e., possessing a full knowledge of available information sources allowing the selection of the 'best' source for a specific purpose; accepting and applying information so that 'best' decisions result.
2. Whereas classical economic man was made to inhabit a world shaped by economic considerations primitive information man lives in a world shaped by the need to generate, obtain and use information; no other form of activity capable of influencing information behaviour is allowed to intrude.
3. Undertaking information activities within recognizably artificial information environments, e.g., the formal information system of a single organization.

More complex models of information man may be said to emerge, again on an analogy with economics, as some, or all, of the above assumptions are modified to reflect information behaviour realities. For example, models of behaviour which allow that other than information issues may have a bearing both upon the manifestation and understanding of information behaviour; or, models which attempt to reflect the complex, interactive process that is summarized by the label 'information behaviour'.

THE EMPLOYMENT OF INFORMATION MAN

Two established areas of research in information science which, by their nature and interests, might be expected to employ and/or produce models of information man are user studies and quantitative studies of the bibliometric type. In both areas assumptions, or statements, regarding information behaviour cannot be avoided. How, then, has information man fared in these areas?

User studies represent a substantial research commitment in information science (Ford, 1977; Browne, 1979). This emphasis reflects the orientation of the discipline towards application and a belief in the utility of data gathering exercises 'in the field'. Ideally, research of this type 'should enable us (1) to explain observed phenomena (2) to understand (information) behaviour (3) to predict behaviour (4) to control phenomena and improve information use by manipulating essential conditions' (Ford, 1977:4). One of the 'essential preliminaries to the attainment of the (foregoing) objectives (is) the description of users' behaviour' (Ford, 1977:4). But descriptions, while they may be suggestive, do not, of themselves, constitute explanations. If explanation is accepted as a legitimate aim of user studies then, consciously or unconsciously, an interpretative framework must be provided. This function is performed by theory.

> In practice all we ever actually observe in the world is a sequence of events. Any explanation whatsoever of how these events are linked together is a theoretical construct. Theories are what we use to impose order on our observations, to explain how the things we see are linked together. Without theories we would have only a shapeless mass of meaningless observations. If we are to make any sense at all of what we see, the choice is not one between theory and observation but between better and worse theories to explain our observations (Lipsey, 1975:11).

In addition, if user research is to be justified, in other than historical terms, it has to be assumed that discovered patterns of information behaviour are relatively constant expressions. Otherwise the predictive requirement, insisted upon above, would not be satisfied.

As outlined, the research approach characteristic of user studies is inductive. Ostensibly the aim is to amass 'facts' which are then transformed into behavioural statements of varying degrees of generality and applicability. In the majority of cases neither the statements, nor the associated explanations, are related to explicit theoretical standpoints (Ford, 1977:4); the main concern is with reporting and describing. Of course, assumptions underlying information behaviour cannot be avoided, but they, and the theoretical constructs to which they might be expected to give rise, remain unstated. It follows that information man, the abstraction created out of such assumptions, remains an implicit, shadowy figure. Nevertheless, his existence is not difficult to establish. A reading of user studies suggests that the following, implied, behavioural assumptions are commonly employed to depict information man:

1. Information man's behaviour is relatively stable over time; there are very few longitudinal studies to suggest an interest in a contrary view.
2. That information behaviour may be described adequately in terms of relationships with information systems of artificially limited potential, e.g., a library and its documents, a rigorously delimited group of specialists, use of certain forms of printed records.
3. That motives impelling individuals to the use of information systems are evident enough not to require systematic investigation, and that aspects of behaviour other than the direct obtaining and use of information are irrelevant to the understanding of the information process.
4. That there exists a direct, and positive, relationship between such behaviour consequences as productivity, effectiveness, efficiency, achievement, etc. and the usage of information and information systems.
5. That information behaviour is rationally motivated and organized. Those studies which embody the 'who knows better than the user' view fall into this class. Numerous studies, however, express concern at the non-rational, or imperfect, information behaviour of studied groups (see, for example, Ford, 1977:70; Hounsell, 1980). A difficulty associated with such views is that, usually, the observed elements of non-rationality are derived from a comparison with the information seeking practices of information scientists rather than from evaluations of rationality based upon individual information requirements in a context of available time, opportunity costs, possible consequences, etc. Although it might be claimed that information scientists have a vested interest in making such critical observations of information seeking behaviour, such deviations from rationality have rarely been employed to alter working assumptions regarding information man, although they could be claimed to influence service attitudes and practices.

Assumptions of this kind indicate the presence of information man of a primitive type, closely resembling his analogue, economic man of the classical period. Although associated with inductive studies it is not always clear how much of this implicit construct is derived from the collected data and how much 'derived from introspection, or from their own general observation of the external world, or from their impression of recorded historical experience' (Viner, 1963:10), i.e., the birth-place of classical economic man. Certainly, it

would be no easy matter to uncover convincing evidence to substantiate any of the above assumptions. Typically, information man does not have an analytical role, even within limited information environments. His functions are as implicit as his presence. Assumptions about what constitute important aspects of information behaviour have influenced both the direction and kind of research undertaken; the problems studied, in effect, are indirect reflections of information man. They are no less influential for being unacknowledged. It is not unusual to discover data being explained by recourse to behavioural interpretations derived from assumptions held about such behaviour.

Why should information man remain such a nebulous figure in studies intended to reveal his lineaments? Certainly, the behavioural assumptions do not offer a deductive base of such potential as those employed by economists. Until recent years this awareness did not persuade information scientists to re-formulate their assumptions in more realistic terms. Rather was the drive towards the use of more elaborate research methods, but with unchanged assumptions. The fundamentalist inductive approach may have obscured the need for a clearly stated theory which would have allowed the emergence of information man as an analytic tool. Additionally, the absence of shaping theory reduced the results of user studies to a catalogue of particularities of limited utility. The diffuseness of the information concept, together with the pervasiveness of information activities, present formidable problems to the establishment of generalizations at almost any level of application. These difficulties may have inhibited the search for a set of abstractions embodying information behaviour tendencies. Assuredly, the conspicuous pragmatism of information scientists, together with the prevalence of non-social science research backgrounds (Ford, 1977:56), would not have predisposed many researchers to attempt solutions to such intractable problems.

Whatever the reasons for remaining satisfied with the employment of implicit, primitive models of information man in user studies the indifference to the issue still surprises. Ultimately, all information activity is reducible to individual motivations and actions; a circumstance which might be thought conducive to the shaping of ascertained information behaviour tendencies into tools of analysis. Obviously, this has not happened. The resulting lack of information behaviour generalizations is a source of comment. 'The only general law of information behaviour available to the information profession is the principle of least effort' (Oldman, 1976:89). Even the enunciation of this so-called principle (Ions, 1977:16) owes nothing to original insights into information behaviour gained by information scientists. Even more sweeping is the opinion that 'theoretical (information) science hardly yet exists... there are no common assumptions, implicit or explicit, which can be regarded as its theoretical foundations' (Brookes, 1980a:125). The evidence is conclusive. Primitive information man (there is no other type in the majority of user studies) has not attained the consolidated presence, or made the same contribution to analysis as economic man achieved in economics.

OBSERVABLES AND OBJECTIVITIES

It is sometimes asserted that the study of information behaviour is more truly scientific when it is confined to the examination of objectivities, or recorded events, to which such behaviour gives rise (Brookes, 1981:11). This approach

has something in common with those user studies which deliberately restrict themselves to measurable data, with the important difference that methods designed to elicit information/data directly from individuals are eschewed. Instead reliance is placed upon data obtained from available records of past expressions of information behaviour (e.g., citation records). This method possesses an apparent objectivity which is especially appealing to those operating, or wishing to operate, in the traditions of the natural sciences. The amounts of such data being generated are substantial enough to allow of effective statistical manipulation and, unlike the more limited user studies, offer seeming scope for wide generalizations. Such data, it might be claimed, are free from the distortions and ambiguities introduced by attitudes, opinions, expectations and other uncertainty producing factors associated with types of research involving direct contact with information seekers/users. Further, investigations in this quantitative mode are capable of replication in that the data worked upon are in the public domain. Such reasoning encourages and supports the proliferation of citation and other forms of bibliometric studies so common in our professional literature (Pritchard, 1969, 1981) and so often displaying more enthusiasm than technical proficiency (Bath, 1980: 90).

Generally, quantitative studies of the above type embody a similar approach to information behaviour and, by implication, to information man, as is to be found in user studies. Narrow assumptions about information environments and information use dominate research design; stability of information behaviour is postulated; motives for the use of information sources are rarely explored, quantities are accepted as adequate indicators of information behaviour. Explanations of implied relationships are treated in a casual, unsystematic, manner; causal factors are rarely handled with the same rigour as the measurable data (see, for example, Kent, 1979; or, almost any treatment of the Bradford-Zipf 'law'). By their nature, quantitative studies are not capable of handling the issues of 'non-rational' information behaviour (i.e., in the information science sense) viewed from the standpoint of the individuals studied. The alternative of relating observed behaviour patterns to norms derived from the practices of skilled, trained information specialists is not uncommonly met. In the majority of studies, however, the question of rationality of information behaviour is either not raised or is answered in favour of rationality. Both courses of action neatly circumvent all manner of disturbing questions. For example, it becomes unnecessary to attempt an answer to nagging doubts about the utility of methods which aggregate so many different types of information acts to produce generalized quantitative statements. The implication of 'non-rational' information behaviour for the design of information systems and for the allocation of resources is effectively dismissed. Assumptions regarding the invariability of information behaviour are allowed to remain unexamined.

The last point deserves further attention. Quantitative studies are essentially historical exercises, based, inevitably, upon past records. For such work to have relevance for the present, and to possess predictive potential, a crucial assumption regarding information behaviour must be made. It is that retrospective studies provide a useful basis for predicting future information behaviour; that information behaviour expresses itself in reasonably constant patterns. The short-term link between the immediate past and the immediate future is undeniable. Most of us are able to organize our lives on the basis of such a belief. For theoretical, and analytical, purposes, however, this

relationship of stability requires a working definition. During periods of slow change such a requirement poses few difficulties, but, to put it crudely, the evidence suggests that short-terms are getting shorter. When the externalities which influence information behaviour so critically (e.g., available resources, institutional practices and conventions, publishing practices and economics, technological factors influencing the information business) are themselves being transformed so rapidly and comprehensively it becomes less easy to define the short-term in a helpfully consistent manner. More to the point, it also weakens the assumptions concerning the invariability of information behaviour over time. With so much else relating to information changing, behaviour, too, must be expected to change. This being so, both the descriptive and retrospective nature of quantitative studies are highlighted. Information behaviour variations are revealed as past trends with only an increasingly remote possibility of reflecting the present during times of rapid and continuous change. During such periods the current and possible future states of information behaviour have to be studied through some form of discourse with individuals. This is not to say that quantitative studies do not have an important descriptive role, only that subjectivities cannot be dismissed if the objects of information science are to obtain an accurate description, explanation and understanding of information behaviour.

Such a conclusion simply echoes that reached by certain economists in their own methodological debates:

> ... scientific method ... demands that we should leave out of account anything which is incapable of direct observation ... At first sight this seems very plausible. The argument that we should do nothing that is not done in the physical sciences is very seductive. But it is doubtful whether it is really justified. After all, our business is to explain certain aspects of conduct. And it is very questionable whether this can be done in terms which involve no physical element. It is quite certain that whether it be pleasing or no to the desire for the maximum austerity, we do in fact *understand* terms such as choice, indifference ... and the like in terms of inner experience. The idea of an end, which is fundamental to our conception of the economic, is not possible to define in terms of external behaviour only ... But even if we restrict the object of economics to the explanation of such observable things as prices, we shall find that in fact it is impossible to explain them unless we invoke elements of a subjective or a psychological nature (Robbins, 1935: 87).

As in user studies the presence of primitive forms of information man may be detected, associated, similarly, with a neglect of theoretical, or generalized, models of information behaviour. The reasons for such neglect may well be those adduced earlier reinforced, perhaps, by the strong preference exhibited by prominent researchers for the study of objectivities reflective of information acts. This latter view insidiously confuses description and explanation to an extent that, when employed with the assumption of rational, or unchangeable, information behaviour, renders further behavioural models unnecessary.

PRIMITIVE INFORMATION MAN

Information man may be viewed as a useful research device if, and only if, the behavioural assumptions which he embodies reflect, and direct attention

towards, information realities. In his manifestations discussed above these requirements, at best, are met only partially. Predictive elements of behaviour have not been isolated, motivational aspects of information behaviour have been neglected, narrow and artificially constricting information environments are regarded as research worthy. In short, a construct of notable information unreality. None of this might matter if information science could be viewed as merely an academic discipline, but it has to be assumed that information science is studied for the light it can throw, directly and indirectly, upon the practicalities and implications of information behaviour. It has yet to be argued that information science is simply a branch of history, which might follow from a denial of the former view. The unreality of our models *does* matter and, in the absence of alternative approaches, there is the danger that the defective models employed may come to be regarded as adequate descriptions and understandings of information behaviour with predictably adverse consequences for theory and practice (Andreski, 1974:35). An over-simplified, and unsystematic, view of information man 'starts from the wrong kind of abstractions and therefore gives a misleading paradigm of the world as it is: it gives a misleading impression of the nature and the manner of operation of [information] forces' (Kaldor, 1975:347; the original quotation has the word 'economic' where I have substituted 'information'). Advances in the understanding of information behaviour would seem to require the elaboration of more complex models of information man, just as in economics. The indications are strong that information science has entered upon this stage of development.

MODERN INFORMATION MAN

It is a commonplace to contend that information science is a young discipline. As such it has to come to terms with methodological issues and problems appropriate to its field of study. Within the last decade there has developed a growing awareness, especially in the fields treated here, that progress towards a fuller understanding of information behaviour has been retarded by an over-reliance upon simple behavioural models. This dissatisfaction has been expressed in a number of forms and places but quotations from one work will serve to illustrate the spirit of the reaction.

> The great gap in library and information management seems to be in the understanding of information behaviour ... the user is represented in models of library systems as rational man ... In order to be effective library managers we need to understand behaviour, we need therefore to get 'behind' behaviour ... Information is a derived demand ... information needs must be identified in terms of organizational goals (Oldman, 1976).

The search for improved tools of analysis, motivated by such dissatisfaction, has led to the elaboration of more complex concepts of information man. Individuals operating within realistically defined information environments have been studied to produce limited, though effective, generalizations about information behaviour (Wilson and Streatfield, 1977); a new emphasis upon qualitative aspects of information behaviour is discernible (Hounsell and Winn, 1981). A forceful justification of the latter development has been advanced by Wilson:

> Qualitative research seems particularly appropriate to the study of the needs underlying information-seeking behaviour because:
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> —our concern is with uncovering the facts of the everyday life of the people being investigated;
> —by uncovering those facts we aim to understand the needs that exist which press the individual towards information-seeking behaviour;
> —by better understanding of those needs we are able better to understand what meaning information has in the everyday life of the people; and
> —by all of the foregoing we should have a better understanding of the user and be able to design more effective information systems (Wilson, 1981:11).

The work associated with this movement represents only the early stage of a reaction against the analytical, explicative and predictive barrenness of previous behavioural approaches. The role of information man has yet to be clearly established, but the auguries are promising. It is significant, also, that the trend towards a more complex apprehension of information behaviour is observable in areas of specialization not examined here. For example, researchers at Ohio State University have elaborated the concept of decision-making man to the stage where they claim to 'have been able to establish quantitative definitions for and the relationships among the quantity of information, value of information, effectiveness of information, decision-maker performance, and other terms' (Yovits, 1981:187). Large claims which may, or may not, be justified but, either way, can be seen to reflect the growing desire to construct models of greater information reality. Although stemming from a different intellectual tradition, Brookes' concern that 'human individuality be taken into account' (Brookes, 1981:11), and his wish to bring about 'a shift of analytical interests in information science from the macro-statistics of classes to a micro-statistics of those aspects of human individuality that can be objectively quantified' (Brookes, 1980b:221) also reflect this trend. Such ways of thinking represent a distinct developmental stage in the intellectual history of the discipline.

CONCLUSION

Initially the pressures upon information scientists to provide a counterpart to economic man may not have been so insistent as those which pushed economists in that direction. Certainly information scientists, wedded to induction and a limiting pragmatism, have failed to develop convincing theories of information behaviour and, in some cases, have failed to see why they should. Typical research of this phase featured models of information man (they could hardly do otherwise, given the nature of the problems encountered), but of an extremely primitive kind, usually formed from undeclared information behaviour assumptions. There was no drive towards the consolidation of such models, or an agreed set of models, even for elementary theoretical analysis or exposition. The frustratingly dead-end character of user studies based upon simplistic behavioural assumptions, and of quantitative work unillumined by systematically sought explanation, has led to developments which broadly parallel those observed in economics, although over a much shorter time span. In some instances the complementary nature of

the deductive and inductive approaches, theory and reality, have been recognized; so making the merging of different traditions more important than insisting upon differences and distinctions. In such developments there is surely the promise of a fuller understanding of information behaviour.

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