

Racial Theories

Second Edition

Michael Banton



PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE
The Pitt Building, Trumpington Street, Cambridge CB2 1RP

CAMBRIDGE UNIVERSITY PRESS
The Edinburgh Building, Cambridge CB2 2RU, United Kingdom
<http://www.cup.cam.ac.uk>
40 West 20th Street, New York, NY 10011-4211, USA <http://www.cup.org>
10 Stamford Road, Oakleigh, Melbourne 3166, Australia

© Cambridge University Press 1998

This book is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 1987. Reprinted 1989, 1990, 1992, 1994
Second edition 1998
Reprinted 1998

Typeset in Plantin 10/12 pt [vN]

A catalogue record for this book is available from the British Library

Library of Congress Cataloguing in Publication data

Banton, Michael P.
Racial theories / Michael Banton. – 2nd edn.
p. cm.
Includes bibliographical references and index.
ISBN 0 521 62075 9. – ISBN 0 521 62945 4 (pbk.)
1. Race 2. Race relations. I. Title.
HT1521.B345 1998 305.8—dc21 97–32115 CIP

ISBN 0 521 62075 9 hardback
ISBN 0 521 62945 4 paperback

Transferred to digital printing 2002

Contents

<i>List of figures</i>	vii
<i>Preface</i>	ix
1 Race as designation	1
The first two phases	4
The third phase	7
2 Race as lineage	17
Classification	18
External conditions	23
Chronology	31
<i>Naturphilosophie</i>	34
Nature and culture	38
Implications of error for racial thought	40
3 Race as type	44
Lineage and variety confused	45
The American school	48
France	62
Britain	68
The typological school	76
4 Race as subspecies	81
Darwin's method	81
Darwin's theories	84
Attempted applications	88
Reductionist explanations	97
Social ecology	102
Genetic explanations	109
5 Race as status	117
Structure and function	119
Kinds of system	129
Micro and macro	136
Discrimination	140
Discrimination in housing markets	145
Discrimination in employment markets	150

	Ethnic origin	158
	Assessment	166
6	Race as class	168
	Epistemological assumptions	169
	Adapting the model	177
	Racism and capitalism	184
	Social rhetoric	188
	Assessment	193
7	Race as social construct	196
	Socialisation into groups	196
	Collective action	199
	Choosing between alternatives	207
	Ethnic alignment	215
	Mobilisation	219
	Ethnicity and politics	226
	Conclusion	233
	<i>Bibliography</i>	236
	<i>Index</i>	248

Figures

3.1 Morton's footnote	51
3.2 Nott and Gliddon's 'conclusions'	58
3.3 Charles Hamilton Smith's view of the primeval location of mankind and the three typical stocks	70
5.1 Explanations of inequalities in earnings	151

1 Race as designation

In the United States of America in the first half of the nineteenth century it was customary to refer to the three main sections of the population as 'whites', 'negroes' and 'Indians'. In 1866 the legislature passed a Civil Rights Act which declared that all persons born in the United States were citizens thereof, and that 'such citizens, of every race and color . . . shall have the same right . . . to make and enforce contracts' and do various other things. This may have been the first occasion that Congress used the word 'race' to designate groups in this way, and to refer to the protection of constitutional rights 'without distinction of race or color'. Four years later the Fifteenth Amendment to the Constitution provided that the right to vote 'shall not be denied . . . on account of race'. To persons brought up within the English-speaking world this use of the word 'race' to designate human groups or sections of the population is unremarkable, but to persons brought up in other language worlds it can seem highly questionable. Some French people would even call it 'racist' in the modern sense of that word, because it misrepresented the nature of the differences between the groups.

Others might not carry their objections as far as this, but still express deep concern over a trend in English usage which has gathered strength since 1866. For example, it has been announced that the British population census in 2001 will include a question on ethnic group that will include 'Mixed-race' as one of the optional answers. To speak of people as 'mixed-race' implies that there are pure races, a notion known for over a century to have no scientific justification. All human populations have diverse genetic origins, so any mention of mixture is misleading without a reference to the time period in which it is thought to have occurred. The Coloured people of South Africa are at present frequently described as 'mixed-race', although they have been a distinctive group, or set of groups, for many generations. In the United States a person whose genetic origins are 5 per cent from continent *A* and 95 per cent from continent *B*, may be assigned to the race identified with continent *A*. How have the millions of people who speak the English

language got themselves into such a conceptual mess? And how can they get out of it?

Any search for an answer must begin with a history of popular classifications. In the mid-nineteenth-century United States 'whites', 'negroes' and 'Indians' were culturally different. They could also be distinguished by their outward appearance, but the relation between culture and appearance was accidental. Though the white group was characterised by a higher level of literacy than the others, there was no necessary relationship between whiteness and literacy. Outward appearance was not a sign of an inward difference that explained why more whites were literate, as if the word 'race' explained why they were more advanced; therefore it was not a good name to use for the difference. Members of the three groups had been brought together in a new economic and political system in which they occupied unequal positions. To identify someone as 'white', 'negro' or 'Indian' was to employ a proper name, a name that was unique to the group so designated (a capital letter for 'Negro' came later). To identify the groups as 'races' was to imply that the biological differences were the key ones. Today it might be said that the three should have been designated not races but ethnic groups, a designation that is not without its problems but which does not encourage so much confusion.

There is now a whole family of expressions centred upon the conception of race, including racial discrimination, racial group, racial prejudice, racial segregation and racism; used together they can make up a racial idiom. One of the most questionable is 'race relations', an expression that first came into use in the United States in 1910 to denote relations between blacks and whites. Its most objectionable feature is its implication that the relations between persons thought (rightly or wrongly) to belong in different 'races' differ in some important respect from the relations between persons thought to belong in the same race. Secondly, its use is said to legitimise an obsolete and dangerous conception of race. The belief that there were pure and mongrel races, and that races were unequal, was central to the ability of the National Socialist movement in Germany to mobilise so much popular support. Beliefs about the special biological characters of Jews, Gypsies, mentally handicapped persons and sexual deviants resulted in unprecedented atrocities. The ideas which made such things possible must now be anathema. On the other hand it is said, firstly, that members of the English-speaking public are accustomed to think of people as belonging in races and that anyone who wishes to correct their misunderstandings must address them in language that they can easily follow. Secondly, the idiom of race has been used internationally to render racial discrimination illegal, while in Britain 'race relations' is the name of the principal law giving effect to this obligation. These laws

play a vital part in reducing the likelihood of any repetition of the Nazi experience. Their dependence upon the idiom of 'race' is too important a usage for anyone to ignore.

The disadvantages inhering in the expression 'race relations' have been recognised for at least half a century (see Hodson, 1950: 305), but there is a genuine dilemma, since the proposed alternatives are little better than the original expression. The idiom of race is used in so many different contexts, both popular and technical, that what might replace it in one context would be unsatisfactory in another. Rather than trying to cut the knot by insisting on a particular replacement, it may be better to begin by untying the knot of past errors to find the sources of the problem. If so, it is necessary to pay close attention to questions of language. The biologists got into difficulties as soon as they changed from a Latin nomenclature and tried to fit the vernacular word 'race' into their classificatory scheme. They escaped from the linguistic trap by developing a theoretical language which is suited to their special purposes, and it looks as if social scientists will have to do the same. There is a growing recognition (e.g. Miles, 1982: 3,19; Banks, 1996:180–90) that part of the present problem is the existence, side by side, of two modes of discourse. One is the practical language of everyday life, employing what are sometimes called folk concepts. The other is a theoretical language in which scientists employ analytical concepts to designate things that the public know under other names. Analytical concepts have to serve purposes different from those served by the words which form part of the practical language of everyday life and therefore may have to be defined differently. When the same word is used in both languages, this can cause confusion. The language now used by those who study the biology of human variation is a technical one with merits that can be appreciated only by those who have studied its foundations. It also makes it easier to neutralise any influence that political passions may exert upon the conduct of research. Social scientists will meet one frustration after another if they do not learn these lessons or if they try to develop schemes tied too closely to the popular conceptions current in one country or one language. Economists and psychologists have progressed further in this respect than sociologists, partly because many sociologists have felt a moral obligation to address as wide a readership as possible and have allowed their political opinions to decide their approach.

Any attempt to untie the knot has to start from the observation that the most serious source of misunderstanding was the theory of permanent racial types, and that this was, among other things, an error in the science of the immediately pre-Darwinian era. By maintaining that every human had distinctive talents inherited as a member of a particular race, some

writers set forth a plausible interpretation not only of individual behaviour and of group relations, but of the course of history itself. It had a special appeal in the newly industrialising societies of Europe and North America which were experiencing much more rapid economic growth than other parts of the world. Thus in 1847, a future British prime minister, Benjamin Disraeli, had a character in his novel *Tancred* declare that 'All is race; there is no other truth'. Disraeli used the idiom of race to celebrate Jewish achievement in spite of persecution rather than to disparage other races, but fundamentally he assumed that to think racially was to be modern and scientific (Vincent, 1990: 27–37). In both its scientific and its historical pretensions the theory was new, as can be seen when it is set alongside its predecessors.

The first two phases

In different cultures humans expect different kinds of explanation. For example, if a man falls sick with malaria, Europeans may accept as an adequate explanation the proposition that he had been bitten by a disease-carrying mosquito. In some African cultures people might not be satisfied with this as an explanation. They would ask why did the mosquito bite this man rather some other person who was nearby? It is in this context that propositions about the effect of witchcraft, or destiny, or divine punishment, are put forward to explain connections that most modern Europeans are content to attribute to chance.

Expectations about what constitutes a satisfactory explanation influence the ways in which words are used as terms in an explanation. It seems as if in the sixteenth–eighteenth centuries most Europeans were satisfied that differences between humans, animals, and plants were explained by showing their place in God's creation, and that one of the motivations for studying natural history was to come closer to an understanding of God's design for the universe. At this time the word 'race' was mostly used to designate a set of persons, animals or plants connected by common descent or origin. It was part of a conceptual scheme in which the distinctive characteristics of specimens were explained genealogically, by showing where they belonged in God's creation.

When it came to humans, the main dispute was whether or not all humans were descended from Adam and Eve. Some authors attempted to account for racial differences by relating them to events in the Biblical narrative. For example, the story (in *Genesis* 10: 25–6) of Noah's curse upon his son Ham, declaring that he would be a 'servant of servants' to his brothers, was used to account for the Negro's blackness although there was no reason to believe that Ham was black. The diversity of races was

attributed to God's decision to confound the language of the children of men after they built the tower of Babel and to scatter them upon the face of all the earth (*Genesis* 11: 1–9).

During these centuries knowledge about variation in living forms was increasing rapidly and much effort went into the description and classification of specimens. Just as birds and plants were identified by Latin names, so were the various classes (like *genus*, *species* and *varietas*) to which they were assigned. Much of the confusion started from attempts to find a place for the word 'race' in a classificatory scheme which did not need it. Was it a synonym for variety or for species? And if it was only a synonym for an existing term, why should it be introduced?

In this first phase, which is described in chapter 2 on Race as Lineage, natural historians collected, described and classified specimens. The Biblical view allowed for occasional catastrophes, like the deluge which occasioned the construction of Noah's ark, and occasional volcanic eruptions; these might be sources of change, but basically the universe was perceived as harmonious and static.

Two recent volumes of readings have sought to illustrate the origins of the idea of race. One started with a 1762 review of Buffon's *History* (Augstein, 1996); the other with an extract from Linnaeus' work of 1735 (Eze, 1997). In the eighteenth century authors tried to account for the differences between humans, such as those in skin colour. Sometimes they used the word 'race' to designate a group of people, but they could equally well have used some other word. A conception of race as later generations have come to know it was not essential to any of their explanations; it had no analytical value, so in this sense there was no idea of race in the eighteenth century.

The work of geologists forced the natural historians to reconsider their time-scale and to confront the evidence for change in all living forms. This opened a second phase in which research workers struggled to come to terms with the evidence of evolution in nature and the unequal development of human societies. New problems required new explanations. To start with, there was a preoccupation with the influence of the environment and a readiness to account for change in human societies in terms of 'moral' causes, in particular with the greater success of some humans in creating social institutions that enabled them use to their talents productively. These explanations were then challenged by others which traced the differences to the operation of supposed physical causes, such as those of biological inheritance.

It began to look as if the differences between whites, blacks and yellows were persistent and of long standing. Chapter 3 on Race as Type shows how, starting with Cuvier, there was increasing sympathy for the view that

racial differences had been constant for as far back as there was evidence. Those who relied on the Old Testament story could offer no reason why God might have created different races, so a genealogical explanation satisfied fewer people. The word 'race' came to signify a permanent category of humans of a kind equivalent to the species category. The first doctrines which were truly racial theories claimed to explain relations *between* groups as the outcome of the properties of species. They appealed to principles different from those used for explaining relations *within* races, just as relations between, say, tigers and antelopes were different from relations between tigers or relations between antelopes.

The more systematic typological theorists, like Nott and Gliddon, recognised that the races of the contemporary world were historical creations assembling people of mixed origin, but they maintained that appearances were deceptive. Though men could migrate and mate with stranger women, humans could not overcome the anthropological laws of permanence of type, the infertility of hybrids, and the limits to acclimatisation; it was these which determined the ultimate outcome. Others did not draw so clear a distinction between race and type. For example, Robert Knox asserted that race was the key to the interpretation of history, but his argument depended upon a definition of race that made it a synonym for type as this word was used by Nott and Gliddon. This assumption of permanent difference is the capital error and the central issue with which the history of racial thought must be concerned. It must explain how the error came about, why it has been so difficult to overcome, and why the elaboration of better explanations had to depend upon the establishment of new modes of analysis.

Since later generations have pilloried some of those who elaborated typological explanations as evil-minded or personally prejudiced individuals, it can be better to take an example from the writing of a much-respected figure: from Gilbert Murray, the classical scholar, humanitarian, and devoted supporter of the League of Nations. At one point he observed (as if this needed no demonstration) that

There is in the world a hierarchy of races . . . those nations which eat more, claim more, and get higher wages, will direct and rule the others, and the lower work of the world will tend in the long run to be done by the lower breeds of men. This much we of the ruling colour will no doubt accept as obvious. (1900: 156)

Unquestionably, whites were at this time superior to blacks and yellows in political and economic power, but Murray's explanation of this was wrong. It failed to distinguish between nations, as political units, and races, as biological units. The position of white people at the top of the hierarchy was attributed to their biological inheritance and the predicted

future division of labour throughout the world was represented as an expression of this hierarchy. The political and economic sources of white power developed over the previous five centuries merited no attention. The text also failed to follow up an interesting line of argument of its own, namely the claim that development was driven by the tendency of certain nations to consume more, and in particular by their demand for more food. Why some groups consumed more was an interesting question to which the racial theories offered a highly speculative biological answer. One of the tasks for the next phase of thought was to separate the sorts of question that could be answered biologically from those which required a different kind of answer.

The third phase

The third phase is one in which racial theories have been superseded by more powerful explanations which do not need any concept of race. Where the typologists regarded racial characteristics as the properties of species, population genetics in the 1930s demonstrated that the unit of selection was not the species but the gene, and more recently was popularised in the title of a best-selling book, *The Selfish Gene* (Dawkins, 1976). How the mistaken theories were superseded in biology is described in chapter 4 on Race as Subspecies. The accumulation of specimens and their classification did not lead to generalisation or to any explanation of their diversity. New theories were necessary for that. In distinguishing the questions addressed by a new generation of research workers, and the kinds of answer they proposed, it can be useful to employ two words of Latin origin. The *explanandum* (plural, *explananda*) is the thing that is to be explained, and *explanans* (plural, *explanantia*) is that which explains it. With the growth in knowledge research workers lost interest in the old *explananda* and moved on to new ones, but, to take a very simple illustration, the *explanans* for the problem 'why is the Negro's skin black?' changed from 'because of a Biblical curse', to 'because it has always been black', and then to 'because it confers a selective advantage in certain environments'.

One of the merits of representing the history of racial theories as falling into three phases is that the various contributors can be seen as having a place in an intellectual structure. Some of them are representative of a particular phase or viewpoint; others are transitional from one to the next; yet others are simply confused or are opportunists who put together incompatible elements to construct an unconvincing thesis. Dividing up the subject and distinguishing different uses of the word 'race' in these phases can also help the commentator avoid falling into the trap of

presentism. This is the tendency to interpret other historical periods in terms of the concepts, values and understanding of the present time. Many writers about racial thought have failed to notice that when their predecessors wrote about groups distinguished in racial terms they did not conceive of race in the way that is implicit in subsequent uses of the word.

Anyone who seeks to explain how it is that some contributions led to a growth of knowledge, and helped to move racial thought on from one phase to another, must draw upon some philosophy of science. Up to the middle of the present century the dominant view was the inductivist one formulated by Francis Bacon. It represented research as a procedure whereby people collected specimens, classified and named them, and then noted the generalisations that emerged. According to Bacon, the chief obstacle to the growth of knowledge was excessive self-confidence among research workers unable to recognise how they were blinded by their own prejudices and superstitions; to avoid error, they should purge their minds of preconceptions. Bacon's successors maintained that the scientific procedure was to express the generalisations as explanatory hypotheses and try to verify them. The challenge to this prescription came from Karl Popper, who maintained that the mind could not be purged of preconceptions. Hypotheses occur to investigators as, working within particular intellectual traditions, they attempt to account for new as well as old observations. Discoveries come from the refutation of conjectures. Mistakes are made continuously: the task is to learn from them. In the study of racial thought the Baconian philosophy revealed itself in the representation of race as 'a modern superstition' and in the claim that doctrines of racial superiority expressed the racial prejudices of their authors. Those who followed Popper's view of the matter stressed the relative inability of scientific institutions in the nineteenth century to regulate claims to scientific authority, especially when the political climate in Europe and North America encouraged the growth and dissemination of the doctrines.

Popper's interest was in the discoveries which ushered in major scientific advances, the revolutions which feature in the title of Thomas Kuhn's book *The Structure of Scientific Revolutions* (1962). Yet Kuhn's work attracted more attention for what it had to say about the paradigms, or patterns, of 'normal science' in between the revolutionary upsets. It accompanied the revival of interest in the sociology of knowledge which encouraged historians to examine what Kuhn called the 'external social, economic and intellectual conditions' when analysing changes in science. Kuhn wrote (1968: 76) of the 'internal approach' to the history of science as being concerned with the substance of science as knowledge. It con-

centrated upon the problems with which scientists grappled and their attempts to resolve them. Kuhn contrasted this with the 'external approach' which is concerned with the activity of scientists as a social group within the larger culture and looks at ways in which their problem selection and their search for explanations are influenced by the social and political conditions of their time. Both are legitimate ways of writing history. The tension between them is not in the answers they offer, but in their choice of questions.

Ernst Mayr in his magisterial account of *The Growth of Biological Thought* (1982: 28–31) has pictured that growth as driven by the hypothetico-deductive method. By simply collecting specimens and recording observations science could never have progressed from systematic botany to plant genetics. As Mayr says: 'Progress in many branches of science depends upon observations made in order to answer carefully posed questions.' Darwin's ability to identify good questions was crucial to the scientific revolution he inspired.

The concepts of population genetics made possible a reliable explanation of the physical differences between human populations which had intrigued the typologists. So although the typological doctrine had never been accepted by the more respected scientists of the era, it is reasonable to see the new concepts as superseding the concept of race in biological science. Geneticists could examine the underlying relations which determined the process of speciation. Instead of trying to identify a subspecies by drawing a line round a collection of individual specimens, they selected samples in order to study the frequency of particular genes within them, and examined the processes of change in gene frequencies.

Population genetics provided explanations of the physical inheritance of characters, but did not attempt to explain cultural inheritance or the social relations between people assigned to groups and categories on the basis of their physical characteristics. Some other kind of science had to find how to supersede the erroneous mid-nineteenth-century explanations of the relation between race and social affairs. A comparison of the present position with that when Gilbert Murray was writing suggests that over this period a very great deal has been learned about the relations between peoples, and that the general public is now much better informed about the relative significance of biological and social causes of human variation. Indeed, no one need spend long studying the publications of the 1950s to see that there has been continuing progress.

Much of this improved understanding is to the credit of biological and social scientists who have addressed popular audiences. Nevertheless, some would think it hubristic were they to compare their work with that of biological scientists because they cannot offer explanations of the same

quality. They might say that the subject matter of social science is just too different – that, for example, social forms cannot be classified like plant species, and that there are no underlying determinants of social variety that can be compared with genes. Some would argue that social science is fundamentally political and that much of the apparent intellectual progress is only a reflection of the political changes from an era of imperial expansion and bellicose nationalism to one in which whites are a dwindling proportion of the world's population. They now have to try harder to understand the views of others. According to some of these critics the social sciences can never attain to objective knowledge.

When they first ventured onto the academic stage, all the social sciences received a critical, if not hostile, reception which was to their eventual benefit. In the debates about the kinds of explanation they might be able to offer, a distinction was sometimes drawn between generalising and historical sciences. The former seek causal explanations of more limited aspects of events, accounting for them in terms of general principles. The latter seek historical explanations which set out to account for events in terms of previous events, highlighting their unique character (Popper, 1945/66, ii: 263–4 and 362 n.7). Economics and psychology, which early in the twentieth century were seen as historical sciences, have developed general theories which subsume the subject matter of nineteenth-century racial theories within conceptual schemes that make no reference to race. They have developed their own theoretical languages.

One of the reasons why developments in sociology have been different lies in that subject's history. Many of its nineteenth-century precursors took a very general view of their vocation, frequently attempting to interpret the course of history in terms of predominating factors. They often looked at societies as wholes: thus John Stuart Mill, writing 'on the logic of the moral sciences', distinguished two kinds of sociological inquiry. He favoured study of 'the causes which produce, and the phenomena which characterise, States of Society generally. In the solution of this question consists the general Science of Society' (1843: 594). This led later to a conception of sociology as a synthesis of the special social sciences, like economics, political science, psychology, human geography, etc. In the early years of the twentieth-century other writers, and most notably Durkheim and Weber, the 'founding fathers of sociology', laid the foundations for a more modest (if still very ambitious) intellectual enterprise, as a special social science of the same order as the others, though a tension between the two conceptions of the subject continues. The more limited conception is reflected in chapter 5 of this book, the more ambitious one in chapter 6. The difference centres not upon whether sociologists should make use of historical material but upon the

kinds of questions that are asked of it, or the kinds of explanation attempted.

Some of the obstacles to the advancement of the social sciences are inherent in the complications of their subject matter. There are other obstacles which derive from the social scientist's own socialisation into a particular society and the near-impossibility of standing apart from it. Yet some difficulties, such as those embodied in language, can be greatly reduced even if not overcome.

As has already been suggested, the process by which more powerful explanations are developed (within both biological and social science) comes from the development of a theoretical language by vesting ordinary words with special meanings, coining new words for these meanings, or agreeing to use mathematical symbols to denote factors in an equation. The process is sometimes slow, and some proposals to give words special meanings and make them into concepts never succeed. Thus in his *History of the Conquest of England by the Normans* (1825), Augustin Thierry took the word 'class' and attempted to use it for explaining the kinds of conflict occasioned by that conquest. In everyday English 'class' is now used in a variety of ways, often to identify what sociologists prefer to call differences of status. Though Karl Marx hailed Thierry as 'the father of the "class struggle" in French historical writing', only a minority of sociologists believe that it has the explanatory power Marx attributed to it. Thierry's book also stimulated W. F. Edwards, the founder of the *Société Ethnographique* in Paris, to develop ideas about race as something that could explain the course of history, and it was this proposal which was developed by the racial typologists to advance what they considered a scientific theory. Any suggestion that 'race' can serve as an analytical concept is now almost universally rejected. The word continues to be used in everyday language in a variety of senses, notably as a name for categories constituted by reference to the outward physical differences of complexion, hair form and bone structure, and it is this usage, given official endorsement in the United States in 1866, which has often encouraged the belief that cultural differences can be explained by physical ones.

A specialist on the history of Greece, writing about the use of the Greek-origin word 'ethnicity', concludes that it was 'a somewhat retrograde step that ethnicity should ever have entered into the *analytical* vocabulary of the social sciences' (Just, 1989: 76). His regret is premature, because social scientists use a great many words which have, or have had, theoretical pretensions, but have not gained acceptance as analytical concepts and probably never will. To give but one example from another sphere altogether, the word 'kinship' has practical value in ordinary

language and is much used by anthropologists, but it is too general to have any place in the explanation of special relations between persons who are kin to one another. 'Ethnicity' is presently used in a similar way to kinship but it might one day earn a place in the analytical vocabulary of the social sciences.

It is sometimes convenient to write as if there were two languages, paralleling the distinction between the world of appearances and the world of determining relations in which the appearances are manufactured, but for other purposes it can be more accurate to envisage a continuum. At one end, the practical language uses folk concepts which change with the growth of knowledge – for example, the concepts of witchcraft and possession, once used to explain misfortune and mental illness, have now been succeeded by better ones. Folk concepts are modified in line with popular experience; ideas about other peoples change in step with the frequency and character of the encounters from which that experience is derived. There can also be two-way traffic between the two languages, some concepts elaborated for theoretical purposes being taken into everyday speech (like 'role model', 'electoral swing', 'charisma', etc.). So in the course of time folk concepts acquire additional meanings which increase their serviceability in everyday communication while at the same time introducing ambiguities. The various meanings are then identified in dictionaries. Furthermore, folk concepts are limited to the societies which fashion them. The word 'race', for example, is not easily translated into non-European languages because of the multiple associations it has acquired in English. Analytical concepts must be capable of international, or transcultural, use.

The difference between folk and analytical concepts, or between words in the practical and the theoretical languages, does not lie in the words themselves but in the use which can be made of them. Where folk concepts are ordinary language names of things, analytical concepts are names necessary to explanations. Theories are built with analytical concepts defined as precisely as possible in order to reduce ambiguities and make the meaning of propositions more certain. Concepts are sharpened by promoting those which have most explanatory power, but an ordinary dictionary definition cannot adequately convey their meanings. For example, a dictionary entry which says that an allele is 'one of two alternative Mendelian characters' is only a beginning. Anyone who wants to understand what explanations the concept renders possible will have to consult a textbook.

Concepts like allele, antigen, antibody, agglutination, and so on, have contributed to the development of a battery of concepts which supersede 'race' in the explanation of the physical aspects of human variation.