

Ethnicity, Citizenship, Family: Identity after the HGP

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A. Specific Aims

The aim of this project is to establish an interdisciplinary working group of scholars who will develop the language, criteria, and conceptual framework for exploring issues related to genetic variation research and social identity. Specifically, the project will address ways in which the information emerging from research into human genetic variation may affect three overlapping domains: concepts of identity and authenticity; concepts of identity and community; and concepts of identity, family, and kinship.

This project is significant because genetic mapping and DNA specification allow for dramatically reconsidered notions of social coherence, affiliation, and social identity. At the same time, America as a society and nation-state is struggling with the meaning of inclusion and diversity. This discourse is marked by appeals to both biological and social constructions of race and ethnicity (yet, paradoxically, is largely unmarked by appeals to a common humanity). Into this moment of social tension, the scientific results of the Human Genome Project offer a tangible claim to truth, relating origin to self and identity with a renewed sense of certainty. Such a moment calls forth deeply challenging questions. Unfortunately, while the discourse of science and genetics has accelerated the search for a medical response to disease, it has only begun to seek answers to these challenges.

The questions and issues we plan to study have been largely unexplored. There has, of course, been a tremendous amount of scholarly work on ethical and social issues surrounding the Human Genome Project, work that has largely been dedicated to issues of privacy, discrimination, access, criminology, medical pathology, and reproduction. There has also been a great deal of work in the humanities and social sciences on issues concerning racial and ethnic identity. These two areas of inquiry, however, have only occasionally overlapped. Our project is fully devoted to precisely this area of overlap; we seek a deeper understanding of the ways in which research on human genetic variation may affect concepts of ethnic, racial, and familial identity.

The specific objectives of this project are the following:

1. to enhance understanding of the emerging research on genetic mapping for scholars across a broad range of disciplines;
2. to reflect on the ethical and social challenges to long-standing moral norms of kinship, citizenship, and community affiliation that may arise as the genome becomes fully mapped;
3. to seek a conceptual framework and distinct language to address the new relationships between self, past, community, family, and future;

4. to create a broad multicultural and multidisciplinary discourse about these topics; and
5. to disseminate this scholarship to both an academic and a lay audience using articles, books, and web-based information.

We believe the working group model is ideal for this genre of research. We have enlisted a talented, multidisciplinary working group that includes scholars from genetics, philosophy, religious studies, sociology, cultural anthropology, and history, as well as scholars whose work is intimately tied to questions of race and ethnicity, such as those working in African-American studies, Jewish Studies, and Native American (or, in Canada, Aboriginal) Studies.

The three-year time period of the project will allow for considerable thoughtful reflection and for changes in the emerging science to be reflected in the research itself. The working group will serve as an ongoing community of interdisciplinary scholars, bringing a wide range of expertise to address question and issues. Periods between the sessions will allow for independent research at the home institutions of the researchers, drawing on the rich resources and diversity of the faculty and students at the university campuses. A core group within this working group will be responsible for managing progress toward fulfillment of all the project's goals. The staff and office resources at the University of Minnesota Center for Bioethics will provide administrative assistance for the project, and San Francisco State University will provide critical resources in the targeted academic areas of ethnic studies, cultural studies, and public research.

At the end of the project, we will be prepared to both publish the scholarly discourse to the academic community and to disseminate the results of our reflections to a wider audience via the Internet.

B. Background and Significance

i. Introduction

The project will explore the ways in which research on human genetic variation may affect concepts of ethnic, racial, and familial identity. It will examine how individuals and groups will respond to potential challenges to, or validations of, their inclusion in the continuum of social, cultural, and political ties, such as race, nationality, community, and family.

In the mapping and assignation of meaning to previously unknown understandings of the person, society draws upon previously established and understood social categories of meaning. Primary to our understanding of the "self" is the self in connection with others. For that purpose, societies used far older mappings -- the ideas of family, kin, and tribe. Such language is the very way the oldest human cultures defined themselves, in fact, as "the people," in opposition to "the others." Kinship boundaries are based in large measure on observable connections based on genetic lineage, marriage, and other familiar arrangements. They carry with them obligations that are binding and unchosen.

Modernity has brought about an alternate set of affiliations. In large measure, for Americans, the defining marker of freedom was freedom from such immutable kinship boundaries and maps.

For American society, the ability to move westward, to live far from the clan, and to strike out as if one was entirely in control of one's destiny was seen as a critical advantage of the premise and promise of American life. This tension between these traditional and contemporary understandings of the self -- between community and individuality, between authenticity and self-transformation, between the ties of family and ethnicity and the freedom to choose one's fate -- lie at the heart of American identity.

Into this complexity comes the tangible, measurable, and unchangeable issue of genetic heritage. If genetic ties become much more clearly known, how will this change American ideas of connection, obligation, and responsibility? Moral concepts are connected to social concepts, such as family, race, and nation. The moral question of what parents owe their children, for example, depends on what counts as a parent-child relationship. Yet genetic information has the potential to alter or confuse these concepts. How will genetic mapping affect moral concepts that overlap the realms of kinship and sexuality, such as incest or patrimony? How will such discussions affect our already strained understanding of citizenship? Will it promote a broader, more inclusive sense of community? Or will a new sense of *das Volk* arise, drawing on 19th century ideas of essential American genotypes?

Genetic information is no less important for identity, our conceptions of who we are as individuals and as a society. Will more genetic information make genetic identity more important, or less? What if my genetic inheritance does not match the way I have come, culturally and personally, to think of myself? Contemporary Western morality places at least some importance on the idea of authenticity -- the idea of being true to who you are. How will this notion be affected by new genetic information? Is a person's true self a matter of her genetic inheritance, or her cultural inheritance, or something else entirely? Will being true to who you are now be a matter of your genes?

A stronger understanding of the importance of genetics has already shifted some landmark moral decisions for many Americans: for example, new reproductive technologies, such as in vitro fertilization and surrogacy arrangements, have allowed infertile couples to use parts of their genetic heritage in combination with technology to produce children. (1,2) Yet much of the scholarly work devoted to these questions has centered largely on ethical issues in medical practice. Our work will broaden these sorts of discussions and bring them into conversation with the extraordinarily active debate in the humanities about issues of identity and their role in matters of political inclusion, education, literary theory, and critical race theory. These discussions, which have taken place largely in programs in ethnic studies, women's studies and gender studies, have only rarely engaged with the ethical issues raised by the new genetics. Our project will bring together scholars with expertise in these different areas of debate, with the hope that a conversation between the various groups will generate scholarly activity of importance to each of the disciplines involved.

ii. Reconfiguring the Authentic Self

Authenticity and identity

There is a strand in modern Western thought that connects the good life to the notion of authenticity. This is the idea that authenticity is connected in a critical way to the way we create meaning in life. A person's life is a project that she controls and has responsibility for, and to make it a meaningful project, she must look inward to discover her own particular talents, desires, aspirations. Traces of this notion of authenticity can be found in twentieth century Western thought everywhere from Weber and Heidegger to contemporary American self-help writers, but Charles Taylor traces the origins of the modern idea of authenticity to Herder.(3,4,5,6)

Before the 18th century, writes Taylor, no one really thought that the differences between human beings had any moral significance. But Herder wrote that each person has his or her own "measure." That is, each person has a certain way of being that is uniquely his or hers, and one is called on to live that way, rather than in imitation of someone else. This makes authenticity, or being true to yourself, critically important, because if you are not true to yourself you are missing out on what being human is for you. As Taylor puts it, "Being true to myself means being true to my own originality, and that is something only I can articulate and discover." (7)

On this view, the good life is not the same for everyone. The content of the good life depends on the individual who is seeking it. But the good life is also crucially connected to identity, because the quest for the good life is also a quest to discover who you are, what sort of person you are, and how that person should live a life. This is a theme that has driven much twentieth century American fiction, from Faulkner or Fitzgerald through Percy or Ellison: the tensions between the search for a place in the social world, the American drive for self-transformation and self-improvement, and the need to be true to your origins. If the narrative of an individual life is a part of a larger narrative -- the narrative of Southern slavery, or the Jewish Diaspora, or European colonialism -- then part of the task of self-discovery involves discovering those narratives. (8)

How might genetic information alter the way people think about authenticity and identity? Clearly genetic information may alter a person's conception of who she is and how her identity is bound up with others. For an American to discover (or decide) how to live a life, it will make a difference to know that, say, he or she is a Jew, or an African-American, or a Southerner, or indeed some combination. For example, it may well make a difference to the Southerner to know that she is the descendant of many generations of Southerners who immigrated centuries ago from Britain and Ireland; what is more, it will make a difference not just to know this but to have absorbed it, to have been shaped by it as a child. But what difference would it make for her to have more -- and potentially different -- knowledge of her genes? What if she found, for example, that she was genetically related to Jews, or African-Americans, or Cherokees? Would this make her feel any differently? How would knowledge, here, connect to what she absorbed as a child, to the way she was shaped?

It is important to stress that authenticity is not simply a personal matter. If authenticity is being true to yourself, then clearly it makes a difference what your "self" is, which may be a matter of who your genes say you are, and who you feel you are. But it is also a matter of who others say you are. Identity is formed in social space, and it changes in response to social space. Who a

person is depends at least in part on how she is perceived by others. So how new genetic information affects a person's identity may also be a result of whether the knowledge is private, or public, or whether it lies in some space in between.

In America, questions of identity and authenticity have always been deeply bound up with problems of race, class, gender, and social inequality. Who counts as a member of the group? Is there anything wrong with trying to become a member of another group? What will happen when what we are told about group membership by genetic science conflicts with what we are told by other criteria -- the cultural, the social, or the historical?

For group membership to be tied to genetics is nothing new, of course. Citizenship of many European countries requires some sort of "blood" tie; to be a real German, for political purposes, means having German blood. Many Native American tribal bands require at least 1/8 Native American blood for band membership. To be Jewish, a person's mother must be Jewish - not the father - or else conversion is required. On the other hand, ritual status within Judaism is tied to the patriarchal lineage: the priests, or Cohenim, have traced genetic lineage for generations, and this lineage decides current ritual status and role regardless of the extent of learning or even familiarity with the tradition. To this extent, genetics is built into many current social and political structures.

Yet the way genetics has been built into these structure has often reinforced racial oppression. In the Jim Crow South, the one-drop rule decreed that any drop of African blood made a person a Negro, which amounted to political and social disenfranchisement. (9) Who counts as a member of a particular group, then, is often a matter of what group is in question, who is asking the question, and for what purposes. Genetic information has been used as a tool of exclusion (to say, for example, who was not allowed to marry in South Carolina) and it can also be used as a tool to confer benefits (to say, for example, who is eligible for affirmative action benefits, or allowed to share in tribal land claims.) How might new genetic information change these kinds of classifications? On the one hand, for a person to count as a member of a particular racial or ethnic group depends, at least to some extent, on his or her genetic constitution. Thus more certain and concrete knowledge of one's genetic constitution has the potential both to undermine or reinforce membership in a particular racial or ethnic group, by making crude genetic markers more concrete. Yet membership has never been completely genetic. Membership is also cultural -- your tastes and preferences, how you carry yourself, what food you eat and what music you listen to, your knowledge of your group's history, what language you speak and in what sort of accent, and so on. So being an "authentic" Jew, or African-American, or Mexican-American is not just a matter of how you look, or your blood ties, but also of these other trappings of ethnic membership. New genetic information may mean that genetic identity will become a measure of authentic identity, so that you are *really* Jewish or African-American or Ojibwe only if you can show how true your genes are.

But there is also the possibility that more genetic information will undermine the idea that identity is genetic, simply by virtue of showing that what we consider most important to who we are has little to do with our genetic constitution. Again, the social and political context here is

important. In the American South, for example, whether a person is descended from the English or the Irish or the French or all three makes little to no difference whatsoever to whether he or she is a Southerner. The genetics here is subservient to the cultural -- accent, manners, home, and so on. Yet it does make all sorts of differences, of course, if a person is descended from Africans.

Authentic group membership

There is an enormous amount of creativity and fluidity in the way people enact their identities. At the same time, there are informal but powerful ways of policing behavior so their enactments conform to a given standard. The tension between self-authoring (e.g., my own way of being Jewish) and communal authority (the Orthodox pre- and pro-scriptive agenda) supplies most of the noise and color to debates about ethnic or racial authenticity. This tension takes place almost entirely within a community of insiders. That is, only an insider can tell another insider that she or he is authentic or not. At the same time, however, this tension is a specific case of a more general tension between individuality and community in American society.

The knowledge generated by the human genome project may pose dilemmas for people who discover that their genetic inheritance does not match the way they have come, culturally and personally, to think of themselves. The significance of new genetic knowledge arises from its relation to the other forms of knowledge people had already accepted and the practices they were already engaged in. If (to take a cue from Goffman) authenticity is a performance, then a person can act authentically African American, or Jewish, or authentically masculine or feminine, and so on. (10) Does new genetic knowledge here function like a newly authoritative script? Does it interrupt the other scripts people were following?

Also important to explore here is the question of who can move from one group to another -- the notion of "passing," with which America has a particularly troubled history. (11,12) Passing refers to a person of one racial or ethnic group passing as another, usually in an attempt to escape discrimination or because of the advantages it confers. Many people have seen passing as morally problematic, because while it may be an understandable effort to escape the consequences of racial inequalities, it is perceived as a betrayal. To pass, and live, as a member of another group is renounce your own. Passing is also inextricably tied to racial classification, because it is only when racial lines have been drawn that they can be crossed. To pass as white depends on the concept of whiteness -- which may be undermined, or redrawn, by new genetic information. What has begun to change more recently, however, is that more people want to pass as members of minority populations now, rather than as members of the white majority. The interplay between race, class, status, and wealth here is especially complex, and it has been fueled by the machinery of consumer capitalism, from the selling of a black, urban hip-hop identity to white suburban teen-agers, to hair straightening treatments for African Americans, to cosmetic surgery for the so-called Jewish nose. (13,14,15,16,17,18)

There is much potential for conflict here, between various kinds of classifications of authentic group membership. For example, it is conventional for population geneticists to define the groups they study as demes, a unit that refers to groups of individuals that are genetically more

similar to one another than they are to other individuals. (19) But a group classification that is scientifically useful for geneticists may well fail to correspond to the classification used by other groups. So, for example, the group that population geneticists classify as an indigenous people may not correspond to the existing, self-defined social communities of indigenous peoples. Which classification takes priority? It is also important to remember that different ethnic groups themselves have different ideas about who belongs. Genetics may mean a lot to who counts as Jewish, but very little to who counts as a Canadian, and something else entirely to the concept of “whiteness”, which has itself been an enormously flexible category and defined largely in opposition to who is not white. American immigrants such as the Jews and the Irish, who in earlier times were originally seen by mainstream America as biologically distinct and discussed with the rhetoric of race, soon became simply white. (20,21,22)

Controlling identity

In America, identity is not simply given to us; it is thought to be something over which we have control. This is the country of the “self-made man.” We can remake who we are; we think, in fact, that we have some responsibility for who we have become. We identify ourselves by what we do for a living, where we live, how we live. But we do not, of course, control our genes.

Will new genetic knowledge limit our powers over our identity? Or will it simply provide us with a new hurdle to overcome? The value of control over identity is deeply ingrained in American thinking. The civil rights movements and women’s movements in America were arguably efforts to control, or even overcome, the social and political limits placed on a person as a result of his or her identity -- that is, the idea that sexual or racial identity should not be a barrier to holding certain jobs, or living in certain areas, or going to certain schools.

The importance of control over identity is also being played out in other ways within biomedicine itself. It comes into play, for example, in the wishes of prospective parents to exercise control over the race or sex of their child through new reproductive technologies, or the wishes of a transgendered person to alter their anatomical appearance through sex-reassignment surgery. These sorts of issues have in turned contributed to a larger social debate about the interplay of the biological and the social in the formation and enactment of identity. Which is authoritative for a person’s sexual identity, for example: chromosomal sex, or the person’s outward appearance?

American’s sense of the infinite possibilities of human life is tied to the tension between family and the heritage of the past, and the notion that the future is entirely open and malleable. Hence genetic knowledge and genetic mapping both increase our sense of the importance of heritage and decrease the horizon of the quest for the self. If much about the self, such as sex and race, can be controlled by one’s parents, and even more, such as cognition, emotion, and character, are correlated to genetic inheritance, then the idea that one is on a chosen, choice-filled journey is no longer quite so clear. If genes are determinative, then the popular movements that link physical health to spiritual and moral development (from Kellogg to New Age psychologists) are of little avail. The idea of radical reinvention was itself a profound part of the American self-definition. How will the idea of genetic knowledge account for our sense of our “right to an open future?”

iii Reconfiguring community

Political structures

Issues around an individual's genetic inheritance have traditionally played an important role in broader political structures, and this continues today. Questions of citizenship, immigration policy, affirmative action, land disputes -- all are bound up with matters of race and ethnicity, within which genetics plays a prominent role.(23) Who is allowed membership in the group -- citizenship, tribal membership, membership in a social or spiritual community? Who is allowed to share the benefits of being in the group? When are they expected to shoulder the burden? And how might new genetic information change all this?

These issues are already being played out in political negotiations involving North American indigenous peoples. When tribal band membership is determined by genetics, so that a person must have a given amount of Catawba or Cherokee or Lakota "blood" for membership in the community, then genetics plays a critical part in deciding who is allowed to share the benefits of land claims, government support, or tribal band wealth. Similar questions about group membership are currently playing an important part in ongoing Canadian debates over political sovereignty and secession. (24) As long as the Quebec sovereignty movement remains alive, and there is resistance to it from indigenous peoples such as the Cree and the Inuit, there will be questions about who counts as Cree, Inuit, Quebecois, and Canadian. Indeed, the debate over Quebec sovereignty movement has long been connected to disputes over who is really Quebecois -- where it includes Anglophone Quebecers, French-speaking immigrants from Africa and the West Indies, immigrants whose native language is neither French nor English, or simply Quebecois with longstanding roots in Quebec.

Population genetics has the potential to confuse issues such as these still further. For example, population geneticists have proposed to use DNA markers to trace the origins of several Inuit communities in the north of Canada. But when the objectives of the study have been presented to the communities in question, these communities have expressed considerable resistance, on the grounds that the project may not express enough respect for, or attention to, aboriginal knowledge. Traditional stories, passed down from one generation to the next, provide a rich account of community origins. If the story told by population genetics conflicts with oral history, which story will take priority? Could population genetics be used to dispute aboriginal land claims? How will the Inuit themselves deal with a conflicting story -- by ignoring it, or accepting it, or incorporating it into their own stories?

Another concrete example of how these encounters may play out, and the kinds of conflicts they may produce, can be seen in research carried out by geneticists at (among other institutions) the Centre for Genetic Anthropology at University College London in collaboration with the Lemba, a Bantu-speaking people in southern Africa.(25,26) Some Lemba have long believed their people are descended from the Israelites. The Lemba do not eat pork or other pig-like animals.

They circumcise male children and keep one day of the week holy. Their oral history has it that their people were led out of Judea and migrated south. By analyzing patterns of genetic variation on the Y chromosome, genetic researchers found that half or more of the Lemba Y chromosomes have a Semitic origin -- a finding that might be seen as confirmation of the Lemba's claim of Jewish ancestry. Samples taken from the most senior Lemba clan, the Buba, also showed that 53% had the Cohen Modal Haplotype, a distinctive genetic pattern on the Y chromosome found predominantly among members of the Jewish priesthood, the Cohanim.(27) Should these findings be seen as confirmation of the Lemba's claim of Jewish ancestry? If so, what sort of affect ought they to have on political structures, such as, for example, immigration policy in Israel? How will it affect the self-conception of the Lemba, or Jews in other parts of the world?

Historians and social scientists who have explored the explosion of worldviews that accompanied the Copernican, Darwinian, and Freudian revolutions might be able to help us understand how the genetic mapping might affect cultural understandings of the self. Myths of origins are only the starting point of detailed cultural belief systems that influence our beliefs about the nature of the world and our rationales for pursuing particular forms of life. Will genetic information change the way different groups of people think about their connections with other groups, and if so, how? For example, one way to begin thinking about this question would be to look at how various groups in the 19th century reacted to theories about the relatedness of various linguistic groups, which produced often surprising results -- the connections between Finnish and Hungarian, for example. If population genetics were to produce similarly surprising results, would ethnic groups react in a similar way? How would these sorts of reactions vary from one group to another? Would genetic connections be more or less important than language?

At issue here are the markers of identity -- racial, ethnic, national -- that are used in political structures from immigration policy to university admissions to policies governing adoption. What sorts of characteristics are legitimately used as markers of inclusion and exclusion? To what extent can an institution, whether it is a national government, a university, or a social club, use these markers to create or preserve its identity? To what extent can the identity of an institution be legitimately based on ethnicity, and what role is genetic inheritance allowed to play? Does it matter if these tools are used not to preserve ethnic similarity, but to create ethnic diversity?

Communities of biology and pathology

Identity has always been bound up with biology: to be Afrikaner or Zulu, male or female, is at least partly a matter of your physical constitution. But over the past several decades the lines between biology and identity have begun to be redrawn. It is not uncommon these days for groups with a particular biological characteristic, often an illness or disability, to identify themselves as a culture or a community. So, for example, in the same way that one might speak of the Jewish or African-American cultures or communities, it is now common to speak of the transgender, intersex or gay communities, or the AIDS or breast cancer or disabled communities, or even -- to take an especially controversial case -- the Deaf community, and Deaf culture.(28,29)

Often what drives the members of these groups together is a shared biological characteristic that may separate them from the mainstream culture. Sometimes the issue is whether a biological characteristic is properly seen as pathology or as normal human variation. So it becomes a matter for debate whether, for example, in the case of the intersex community, whether ambiguous genitalia is something that must immediately be surgically corrected; or, to take another example, several decades ago, whether homosexuality should be classified as a mental disorder. (30,31) Even more crucially, many such groups have begun to argue that illness and disability -- or alternately, what they insist is *not* illness or a disability -- is essential to their sense of who they are. Members of the Deaf community opposed to cochlear implants for the prelingually deaf have argued that deafness is a marker of community membership. On this view, Deaf culture, with its own schools, rituals, stories, values, and manual languages, ought to be seen as a culture no less valid than, say, French-Canadian culture, and entitled to the same kinds of political protections.

New genetic information has the potential to affect these sorts of conceptions of identity in much the same way that it might affect conceptions of race and ethnicity. If a particular biological characteristic is seen as a marker of community membership -- whether it is skin color or sexual anatomy, facial features, or the absence of hearing -- then genetic science may change the way these markers are seen. Much has been written about the possibility of genetic markers for diseases and disabilities becoming identified with the conditions themselves -- of the presence of a genetic predictor for breast cancer, for example, coming to be seen as a kind of illness or disability itself. Might such genetic markers also come to be seen as markers of community membership -- say, a genetic predictor for breast cancer as a marker of membership in the breast cancer community? How are genetic markers for these biological characteristics, invisible but for genetic testing, connected to an outward, visible biological condition?

If we recognize these kinds of groups as cultures or communities in the same sense in which we recognize other cultures and communities, then the question arises whether we have the same kinds of duties to preserve and sustain them that many would say that we owe to other communities. If, say, we take seriously the obligation to preserve, say, French Canadian culture, and to ensure that the French language does not die out in North America, then what are our duties towards Deaf culture, and its manual languages, such as American Sign Language? (32) If genetic predictors for congenital deafness are identified, how ought that information to be used? Should Deaf parents be given the right, as some have argued, to use genetic technologies to select for deaf children?

iv. Reconfiguring family and kinship

Identity is located not simply (or even most critically) in ethnicity and race, but in structures of family and kinship. These structures themselves vary tremendously across cultures, and are intertwined with the moral and the spiritual. They embrace questions of what family members owe one another, who counts as a member of a family, who is allowed to marry whom, and of what family members owe to their ancestors. Even the metaphors used to describe the locus of

life's meaning and purpose often evoke family and kinship (for example, Jesus Christ as the son of God.)

Family ties cut across national and ethnic lines, especially in immigrant countries. An American may have one set of grandparents and cousins in Korea or Laos, and another set in Poland or the Ukraine. Many Americans can trace their ancestry to a combination of European, African, and Native American peoples. As people of various ethnicities and nationalities marry one another, have children, immigrate from one part of the world to another, change or renounce their religions, and raise their children accordingly, they alter the traditional boundaries of identity which have given shape to their lives.

Structures of family and kinship have always been connected in some way to genetic ties, even if they are not expressed in scientific language. Yet as we learn to trace with sensitivity and increasing accuracy genetic links between individuals, this knowledge may transform the sense of self that undergirds a collective sense of family, place, and home. My homeland is where my people are from, yet what is meant by "my people" in this sense is a complicated mix of family and culture: relatives, religious community, historical narrative, political allies, and the landscape of values that have shaped my history. How will more genetic knowledge transform these traditional structures of family and kinship?

These structures are already facing challenges from new reproductive technologies. It is no longer extraordinary that the woman who carries and gestates the fetus differs from the woman to whom the fetus is genetically related; that the genetic father of the fetus differs from the sexual partner of the woman carrying the fetus; that technology allows same-sex partners to have children to whom at least one partner is genetically related. These developments -- and many others -- call into question the meaning of family, who might conceivably be a part of a family, and how those families might be arranged.⁽³³⁾ These questions in turn have produced even broader political consequences, calling into question laws and policies covering family issues from inheritance law and adoption policy to same-sex marriages and the control of pre-implantation embryos.

They have also begun to challenge traditional moral concepts. Think, for instance, about the concept of motherhood, and how it has been challenged by surrogacy arrangements. When the woman who is genetically related to the child is different from the one who has gestated the child, and both again are different from the woman who is rearing the child -- who is the real mother? Or perhaps more to the point: what sorts of moral obligations, if any, does each woman owe the child? When the child has grown to adulthood, what will he or she owe each of them? Do these moral obligations flow from what has been sorted out contractually in advance, or from the role the various persons played causally in bringing the child into the world, or from the emotional bonds of these persons one to the other?^(34,35,36)

Research into genetic variation has the potential to bring about similar challenges by uncovering previously unsuspected genetic links between individuals, who may or may not be of the same ethnic background. This knowledge will force us to ask questions about what family members

owe one another and the extent to which this is dependent on their genetic relationships.(37,38) Whether these genetic relationships generate moral obligations is by no means clear. Westerners often have deep emotional relationships, in the absence of a genetic bond, that look very much like family relationships -- for example, the role of godmothers and godfathers in German Catholic culture. What is more, who counts as a family member, genetic or otherwise, varies widely from one family to another. Many Americans have little contact or interest in their first cousins, while other families extend much more widely (think, for example, of the Kennedys.) Concrete affirmation of genetic links will force us to pay more attention to the question of how the moral is related to the genetic, the social, and the emotional. When we say that a genetic father must pay child support for his children, is it because he is genetically related to them or because he has played a causal role in bringing that child into the world? When we say that a child must help support their elderly parents, is it because they are genetically related or because the parents have raised and nurtured the children when they were themselves dependent? To what extent is the moral prohibition on incest dependent on the genetic relationship between sexual partners, and to what extent is it dependent on the social and emotional relationships?

Also important here is the way individuals will react when genetic links cross racial lines. For example, Y chromosome linkage studies were recently used to investigate possible genetic links between Thomas Jefferson and African-Americans who believed themselves to be descendants of Jefferson and his slave mistress, Sally Hemings. These studies corroborated the traditional black oral history claiming that Jefferson fathered Hemings's final son, Eston. But they failed to corroborate oral histories linking Jefferson to descendants of Hemings's first child, Thomas Woodson. White descendants of Jefferson have had mixed reactions to the possible inclusion of Jefferson's black descendants into their familial society, the Monticello Society, the benefits of which include burial at Monticello. Some have professed open skepticism toward African-American oral history even in the face of genetic evidence, and coolness at best towards those African-Americans descended from Jefferson. Yet others have called for inclusion of all Jefferson's descendants in the Monticello Society, black or white.(39,40)

In the increasingly passionate debates about the meaning of family in America, many have suggested that we adopt the widest possible definition of family perimeters. Broad demographic and cultural shifts -- from increased individual mobility to new reproductive technologies to non-traditional sexual partnerships -- have opened the discourse of how a family is constituted to a wide variety of models. Yet the idea of genetic mapping and medicine's embrace of the centrality of genetic predisposition re-centers the importance of biological linkages, the inhabitability of fate, and the relationship of nature and nurture in development. How will this sense of genetic fatedness and family affiliation be linked to our sense of self?

In summary, it is clear that such debates are likely to be at the heart of our reactions to scientific research on human genetic variation. As we struggle to make moral sense of the changes to biomedicine brought about by new genetic research, we will need to make moral sense of potential changes to our sense of social identity.

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