

*Get Textbooks on Google Play. Rent and save from the world's largest eBookstore. Read, highlight, and take notes, across web, tablet, and phone.*

An emergent property of a system, in this context, is one that is not a property of any component of that system, but is still a feature of the system as a whole. Nicolai Hartmann, one of the first modern philosophers to write on emergence, termed this categorial novum new category. Definitions[ edit ] This idea of emergence has been around since at least the time of Aristotle. The term "emergent" was coined by philosopher G. Lewes, who wrote: Every resultant is either a sum or a difference of the co-operant forces; their sum, when their directions are the same "€" their difference, when their directions are contrary. Further, every resultant is clearly traceable in its components, because these are homogeneous and commensurable. It is otherwise with emergents, when, instead of adding measurable motion to measurable motion, or things of one kind to other individuals of their kind, there is a co-operation of things of unlike kinds. The emergent is unlike its components insofar as these are incommensurable, and it cannot be reduced to their sum or their difference. The common characteristics are: He also says that living systems like the game of chess, while emergent, cannot be reduced to underlying laws of emergence: They serve merely to describe regularities and consistent relationships in nature. These patterns may be very illuminating and important, but the underlying causal agencies must be separately specified though often they are not. But that aside, the game of chess illustrates. Indeed, you cannot even reliably predict the next move in a chess game. It also includes the players and their unfolding, moment-by-moment decisions among a very large number of available options at each choice point. The game of chess is inescapably historical, even though it is also constrained and shaped by a set of rules, not to mention the laws of physics. Moreover, and this is a key point, the game of chess is also shaped by teleonomic, cybernetic, feedback-driven influences. In terms of physical systems, weak emergence is a type of emergence in which the emergent property is amenable to computer simulation. This is opposed to the older notion of strong emergence, in which the emergent property cannot be simulated by a computer. Some common points between the two notions are that emergence concerns new properties produced as the system grows, which is to say ones which are not shared with its components or prior states. Also, it is assumed that the properties are supervenient rather than metaphysically primitive. Bedau Weak emergence describes new properties arising in systems as a result of the interactions at an elemental level. However, it is stipulated that the properties can be determined only by observing or simulating the system, and not by any process of analysis. Bedau notes that weak emergence is not a universal metaphysical solvent, as the hypothesis that consciousness is weakly emergent would not resolve the traditional philosophical questions about the physicality of consciousness. However, Bedau concludes that adopting this view would provide a precise notion that emergence is involved in consciousness, and second, the notion of weak emergence is metaphysically benign. The whole is other than the sum of its parts. An example from physics of such emergence is water, being seemingly unpredictable even after an exhaustive study of the properties of its constituent atoms of hydrogen and oxygen. Bedau Rejecting the distinction[ edit ] However, "the debate about whether or not the whole can be predicted from the properties of the parts misses the point. Wholes produce unique combined effects, but many of these effects may be co-determined by the context and the interactions between the whole and its environment s " Corning In accordance with his Synergism Hypothesis, Corning Corning also stated, "It is the synergistic effects produced by wholes that are the very cause of the evolution of complexity in nature. Koestler Further, The ability to reduce everything to simple fundamental laws does not imply the ability to start from those laws and reconstruct the universe. The constructionist hypothesis breaks down when confronted with the twin difficulties of scale and complexity. At each level of complexity entirely new properties appear. Psychology is not applied biology, nor is biology applied chemistry. We can now see that the whole becomes not merely more, but very different from the sum of its parts. Anderson Viability of strong emergence[ edit ] The plausibility of strong emergence is questioned by some as contravening our usual understanding of physics. Although strong emergence is logically possible, it is uncomfortably like magic.

How does an irreducible but supervenient downward causal power arise, since by definition it cannot be due to the aggregation of the micro-level potentialities? Such causal powers would be quite unlike anything within our scientific ken. This not only indicates how they will discomfort reasonable forms of materialism. Their mysteriousness will only heighten the traditional worry that emergence entails illegitimately getting something from nothing. Now, M, as an emergent, must itself have an emergence base property, say P. Now we face a critical question: Why cannot P do all the work in explaining why any alleged effect of M occurred? Moreover, this goes against the spirit of emergentism in any case: One escape route that a strong emergentist could take would be to deny downward causation. However, this would remove the proposed reason that emergent mental states must supervene on physical states, which in turn would call physicalism into question, and thus be unpalatable for some philosophers and physicists. Meanwhile, others have worked towards developing analytical evidence of strong emergence. In , Gu et al. The view that this is the goal of science rests in part on the rationale that such a theory would allow us to derive the behavior of all macroscopic concepts, at least in principle. The evidence we have presented suggests that this view may be overly optimistic. The development of macroscopic laws from first principles may involve more than just systematic logic, and could require conjectures suggested by experiments, simulations or insight. To explain such patterns, one might conclude, per Aristotle , [2] that emergent structures are other than the sum of their parts on the assumption that the emergent order will not arise if the various parts simply interact independently of one another. However, there are those who disagree. In fact, some systems in nature are observed to exhibit emergence based upon the interactions of autonomous parts, and some others exhibit emergence that at least at present cannot be reduced in this way. In particular renormalization are methods in theoretical physics which enables scientists to study systems that are not tractable as the combination of their parts. Defining structure and detecting the emergence of complexity in nature are inherently subjective, though essential, scientific activities. Despite the difficulties, these problems can be analysed in terms of how model-building observers infer from measurements the computational capabilities embedded in non-linear processes. The discovery of structure in an environment depends more critically and subtly, though, on how those resources are organized. The synergies associated with emergence are real and measurable, even if nobody is there to observe them. They contend that artistic selfhood and meaning are emergent, relatively objective phenomena. Pearce has used emergence to describe the experience of works of art in relation to contemporary neuroscience. In international development, concepts of emergence have been used within a theory of social change termed SEED-SCALE to show how standard principles interact to bring forward socio-economic development fitted to cultural values, community economics, and natural environment local solutions emerging from the larger socio-econo-biosphere. These principles can be implemented utilizing a sequence of standardized tasks that self-assemble in individually specific ways utilizing recursive evaluative criteria. Emerging Literatures, Bern, Berlin, etc. By opposition, "emergent literature" is rather a concept used in the theory of literature. Emergent properties and processes[ edit ] An emergent behavior or emergent property can appear when a number of simple entities agents operate in an environment, forming more complex behaviors as a collective. If emergence happens over disparate size scales, then the reason is usually a causal relation across different scales. In other words, there is often a form of top-down feedback in systems with emergent properties. Emergent behaviours can occur because of intricate causal relations across different scales and feedback, known as interconnectivity. The complex behaviour or properties are not a property of any single such entity, nor can they easily be predicted or deduced from behaviour in the lower-level entities, and might in fact be irreducible to such behavior. The shape and behaviour of a flock of birds [1] or school of fish are good examples of emergent properties. One reason emergent behaviour is hard to predict is that the number of interactions between a system components increases exponentially with the number of components, thus allowing for many new and subtle types of behaviour to emerge. Emergence is often a product of particular patterns of interaction. Negative feedback introduces constraints that serve to fix structures or behaviours. In contrast, positive feedback promotes change, allowing local variations to grow into global patterns. Another way in which interactions leads to emergent properties is dual-phase evolution. This occurs where interactions are applied intermittently, leading to two phases: On the other hand, merely having a large number of

interactions is not enough by itself to guarantee emergent behaviour; many of the interactions may be negligible or irrelevant, or may cancel each other out. In some cases, a large number of interactions can in fact hinder the emergence of interesting behaviour, by creating a lot of "noise" to drown out any emerging "signal"; the emergent behaviour may need to be temporarily isolated from other interactions before it reaches enough critical mass to self-support. Thus it is not just the sheer number of connections between components which encourages emergence; it is also how these connections are organised. A hierarchical organisation is one example that can generate emergent behaviour a bureaucracy may behave in a way quite different from that of the individual humans in that bureaucracy ; but emergent behaviour can also arise from more decentralized organisational structures, such as a marketplace. In some cases, the system has to reach a combined threshold of diversity, organisation, and connectivity before emergent behaviour appears. Unintended consequences and side effects are closely related to emergent properties. Instead a component implements a behaviour whose side effect contributes to the global functionality [ Steels In other words, the global or macroscopic functionality of a system with "emergent functionality" is the sum of all "side effects", of all emergent properties and functionalities. Systems with emergent properties or emergent structures may appear to defy entropic principles and the second law of thermodynamics , because they form and increase order despite the lack of command and central control. This is possible because open systems can extract information and order out of the environment. Emergence helps to explain why the fallacy of division is a fallacy. Emergent structures in nature[ edit ] This section needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. November Ripple patterns in a sand dune created by wind or water is an example of an emergent structure in nature. Emergent structures can be found in many natural phenomena, from the physical to the biological domain. For example, the shape of weather phenomena such as hurricanes are emergent structures. The development and growth of complex, orderly crystals , as driven by the random motion of water molecules within a conducive natural environment, is another example of an emergent process, where randomness can give rise to complex and deeply attractive, orderly structures. Water crystals forming on glass demonstrate an emergent, fractal process occurring under appropriate conditions of temperature and humidity. However, crystalline structure and hurricanes are said to have a self-organizing phase.

**Chapter 2 : The Changing Racial Dynamics of the War on Drugs | The Sentencing Project**

*Ethnicity is the subject of this collection of studies. The first question is whether or not, in an era criss-crossed with processes of transnational migrations, increasingly common migration-linked ethnicities differ essentially from traditional indigenous ones.*

See Article History Ethnic conflict, a form of conflict in which the objectives of at least one party are defined in ethnic terms, and the conflict, its antecedents, and possible solutions are perceived along ethnic lines. The conflict is usually not about ethnic differences themselves but over political, economic, social, cultural, or territorial matters. Ethnic conflict is one of the major threats to international peace and security. Conflicts in the Balkans, Rwanda, Chechnya, Iraq, Indonesia, Sri Lanka, India, and Darfur, as well as in Israel, the West Bank, and the Gaza Strip, are among the best-known and deadliest examples from the late 20th and early 21st centuries. The destabilization of provinces, states, and, in some cases, even whole regions is a common consequence of ethnic violence. Ethnic conflicts are often accompanied by gross human rights violations, such as genocide and crimes against humanity, and by economic decline, state failure, environmental problems, and refugee flows. Violent ethnic conflict leads to tremendous human suffering.

**Ethnic identity, ethnicity, and ethnic group** The terms ethnic and ethnicity have their roots in the Greek word *ethnos*, which describes a community of common descent. In ethnic conflict research, the terms ethnic group, communal group, ethnic community, people, and minority are mostly used interchangeably. Two elements provide the basis to identify ethnic groups: Smith, a scholar of ethnicity and nationalism studies, identified ethnic criteria that provide the origins of communal identity. Those include shared historical experiences and memories, myths of common descent, a common culture and ethnicity, and a link with a historic territory or a homeland, which the group may or may not currently inhabit. Elements of common culture include language, religion, laws, customs, institutions, dress, music, crafts, architecture, and even food. Ethnic communities show signs of solidarity and self-awareness, which are often expressed by the name the group gives itself. Ethnic identity is formed by both tangible and intangible characteristics. As a result, the group considers perceived and real threats to its tangible characteristics as risks to its identity. If the group takes steps to confront the threats, its ethnicity becomes politicized, and the group becomes a political actor by virtue of its shared identity. On the other side, ethnicity is just as much based on intangible factors—namely, on what people believe, or are made to believe, to create a sense of solidarity among members of a particular ethnic group and to exclude those who are not members.

**Theories of ethnic identity** Although communal identity provides the foundation for the definition of ethnic groups, disagreement exists over how ethnic identity forms and how it changes over time. A first school of thought, known as the primordialist approach, explains ethnicity as a fixed characteristic of individuals and communities. According to primordialists, ethnicity is embedded in inherited biological attributes, a long history of practicing cultural differences, or both. Ethnic identity is seen as unique in intensity and durability and as an existential factor defining individual self-identification and communal distinctiveness. Mobilization of ethnic identity and ethnic nationalism is a powerful tool to engage the group in a political struggle. Ethnic divisions and ethnic conflict are considered inherent to multiethnic societies and a common phenomenon. The primordialist focus on fixed identities, however, fails to recognize variations in ethnic group formation, ranging from relatively short-term associations to long-standing, strong, and cohesive groups with biological and historical roots. To account for these differences, a second approach, referred to as instrumentalist, was developed, which understands ethnicity as a device used by individuals and groups to unify, organize, and mobilize populations to achieve larger goals. Instrumentalists hold that ethnicity has very little or no independent ranking outside the political process and is in its character comparable to other political affiliations such as ideological beliefs or party membership. According to instrumentalists, ethnicity is a result of personal choice and mostly independent from the situational context or the presence of cultural and biological traits. Ethnic conflict arises if ethnic groups compete for the same goal—namely power, access to resources, or territory. Ethnic conflict is thus similar to other political interest conflicts. Instrumentalism is criticized by those who argue that ethnicity, in

contrast to political affiliations, cannot be willfully decided on by individuals and is instead rooted in and regulated by the society as a whole. Advocates of another school of thought, known as social constructivism, focus on the social nature of ethnic identity. In their view, ethnicity is neither fixed nor entirely open. Individuals and groups cannot avoid the fact that ethnic differences exist, but they determine for themselves what to make of those differences. Ethnic conflict depends thus to a great extent on the opportunities provided for the group to reach their goals. Violent conflict is caused mainly by social and political systems that lead to inequality and grievances and do not offer options for the peaceful expression of differences. Changes in social interactions, such as increased tensions or violent conflict, influence the socially constructed nature of ethnicity. Social constructivists explain the tremendous atrocities committed during ethnic conflicts—such as genocide, mass rape, and ethnic cleansing—by the fact that, by virtue of ethnicity, ultimately everyone becomes involved in the struggle, regardless of their intent. A fourth view, that of psychocultural interpretations, ascribes to ethnicity deep cultural and psychological roots, which make ethnic identity extremely persistent. Ethnic identity cannot be changed, only made more tolerant and open-minded. Ethnic conflict is thus not simply a political event but a drama that challenges the very existence of the group by contesting its identity. This explains why ethnic conflicts are very difficult to resolve. In reality, some ethnic groups have identities with deep historical roots whereas others do not, and some groups have static identities whereas others have dynamic identities. The concrete expression of ethnicity and its propensity to lead to violence and warfare depend on the context. Ethnic identities are adaptable to and activated by unexpected threats and new opportunities. Ethnicity cannot be politicized unless an underlying core of memories, experience, or meaning moves people to collective action. In light of this, Milton J. Indisputably, the strongest factor is war and violence. First, the history of common efforts, stories of sacrifices for a common goal, and memories of human suffering create strong connections among the members of affected ethnic groups. Similarly, if a group experiences economic, political, and cultural discrimination, group cohesion tends to increase. Literacy allows elements of identity to be stored in writing, which means that historical and cultural narratives can reach a mass audience and stay the same over time. Even if an ethnic identity lies dormant for some time, it can be revived. Finally, the identities of nonimmigrant groups tend to be more pronounced than the identities of immigrant ethnic groups. While immigrants often assimilate, nonimmigrant minorities generally adhere to their traditions, especially if they are easily distinguished from the rest of the society by tangible traits such as physical markers.

**Types of ethnic groups** Not all ethnic groups are politically active or engage in ethnic conflict. Depending on the political structure of the state democracy versus authoritarian regimes and the size and situation of the ethnic minority large versus small portion of the society, regionally concentrated versus dispersed, ethnic groups will have different claims and will use different means to voice their demands. The Minorities at Risk Project at the University of Maryland began tracking ethnic groups in, and it developed six types for categorizing the groups: Ethnonationalists are large, regionally concentrated ethnic groups with a history of autonomy or separatist struggles. Indigenous peoples are original inhabitants, or descendants of the original inhabitants, of a colonized territory. These groups typically have traditional social, economic, and cultural customs that set them apart from the rest of the society. Even though indigenous peoples are often notably different from the dominant group they usually are set apart not only by physical markers but also by language, religion, traditions, etc. As a result, indigenous peoples are among the most-marginalized ethnic groups in the world.

**Chapter 3 : Cultural Differences in Family Dynamics | Dimensions of Culture**

*Note: Citations are based on reference standards. However, formatting rules can vary widely between applications and fields of interest or study. The specific requirements or preferences of your reviewing publisher, classroom teacher, institution or organization should be applied.*

Highlight and copy the desired format. Emerging Infectious Diseases, 24 10 , We investigated the underlying ecologic and epidemiologic processes associated with this viral spread by performing a comparative genomic study using full-length genome sequences and data from outbreak investigations. Once established in poultry, the virus rapidly spread between turkey and chicken farms in neighboring states. Enhanced biosecurity is required to prevent the introduction and dissemination of HPAIV across the poultry industry. Outbreak of H5N2 influenza virus in birds of backyard and industrial farms, raptors, and wild birds in the United States and Canada, December 2005–July 2006. Despite increased surveillance throughout and Reassortant H5N2 virus was identified as the causative agent of influenza outbreaks in poultry farms in British Columbia, Canada, and among wild waterfowl in the northwestern United States Video 8. This virus subsequently was the predominant strain during HPAIV outbreaks among poultry in the United States in 2005, particularly during March–June 9, 10, and was detected in wild birds migrating along the Pacific, Central, and Mississippi flyways 11, The last reported virus detection related to the outbreak in the United States was in June from a Canada goose in Michigan. Despite increased surveillance efforts in the United States, HPAIV was rarely detected in wild bird populations during the latter half of 2006. In 2007, the virus was detected just 2 times by real-time reverse transcription PCR in mallards, once in July from bird banding efforts in Utah and once in November from a hunter harvest in Oregon. In 2008, H5N2 virus clade 2. Despite disagreement about the role of flyways in limiting viral spread among wild birds 17, 18, the rapid spatial diffusion and transmission of HPAIV in wild and domestic birds highlight the need to further investigate the processes involved in viral emergence and spread. Viruses came from 32 wild birds, 7 raptors, 14 backyard poultry farms, and commercial poultry sites. We used a molecular epidemiologic approach involving genome sequences and outbreak information to determine the evolution and spread patterns of these viruses. We assembled genome sequences using SeqMan NGen version 4 [http: Data from Minnesota](http://www.lasergene.com) 1 backyard farm, 99 commercial poultry farms, 1 wild bird and Iowa 69 commercial poultry farms, where most commercial poultry were affected, predominated in this sample. To demonstrate the phylogenetic organization of the HPAIV outbreak, we built a maximum-likelihood phylogenetic tree of the concatenated genome all 8 genome segments with RAxML version 8. To assess relatedness support, we performed rapid bootstrapping, with bootstrap convergence criterion yielding 1, bootstrap iterations. We illustrated the time series of outbreaks by subgroup and state using Tableau [https: Median-Joining Network Analysis](https://www.tableausoftware.com) We concatenated all 8 genome segments of each virus isolate to generate a single alignment. Ancestral State Reconstruction of Geographic Location and Host Type To investigate virus transmission between host types over large spatial scales, we reconstructed the virus transmission history between states geographically using an ancestral state reconstruction approach with a Bayesian stochastic search variable selection to determine the most probable spatial and ecologic transmission history. For all phylogeographic analyses, we used an uncorrelated log-normal distribution relaxed-clock method with a Hasegawa, Kishino, and Yano nucleotide substitution model and Bayesian skyride coalescent prior. We then developed a more refined model to estimate viral diffusion and transmission between wild and domestic populations and assess the most likely route of spread. In this model, we defined geographic region and host type as discrete nominal categories. We categorized geographic region of virus collection by migratory flyway Pacific, Central, Mississippi and host type as chicken, turkey, wild bird, or backyard poultry. We estimated ancestral state transition rate and model parameters from a set of 5, empirical trees simulated from HPAIV H5 HA gene data collected throughout the outbreaks. For the discrete ancestral state model, we used a nonreversible continuous-time Markov chain model to estimate geographic and host transitions among wild and domestic birds. We used Bayesian stochastic search variable selection to identify important transitions using a binary indicator I 18, 26, 27, enabling the calculation of Bayes factor with SPREAD

version 1. We used the last trees from each posterior distribution to construct heat maps representing the average number of transitions per month Technical Appendix. Results Figure 1 Figure 1. Virus region and host are indicated. The highly pathogenic phenotype of viruses sequenced in this study were confirmed by presence of the polybasic amino acid motif at the HA cleavage site and through experimental infection of chickens by intravenous inoculation Technical Appendix. During December–March, H5N2 was detected in poultry farms of British Columbia and in wild waterfowl and backyard poultry of states along the Pacific flyway Figure 1. Figure 2 Figure 2. Genetic characterization of reassortant highly pathogenic avian influenza virus A H5N2 clade 2. A Maximum-likelihood phylogeny of concatenated complete genome sequences. Labels indicate genetic subgroups. Scale bar indicates nucleotide We generated a maximum-likelihood phylogenetic tree and median-joining phylogenetic network of HPAIV H5N2 using concatenated full-genome sequences from the United States, 16 from Canada to investigate the relatedness of isolates Figure 2 ; Technical Appendix Figure 2. Group 2 predominantly contained viruses isolated from poultry from states along the Mississippi flyway: Both group 1 and 2 viruses were found in wild birds and gallinaceous poultry Figure 2 ; Technical Appendix Figure 3. Wild birds infected with group 2 viruses were only infected with subgroup 2nc viruses. Group 1 viruses were recovered from all host types represented 28 wild birds, 5 raptors, 11 backyard poultry, 14 commercial poultry [1 chicken, 13 turkeys]. Subgroups 2c and 2d were found only in turkeys and had limited geographic spread. The remaining subgroups affected several hosts. Subgroup 2nc viruses were isolated from 6 wild birds, 13 commercial turkey sites, and 3 commercial chicken sites. Subgroup 2a was found in 2 backyard sites, 36 commercial turkey sites, and 1 commercial chicken site. Genetic clustering of subgroups 2a, 2b, and 2e in maximum-likelihood analysis and the close genetic relatedness of Midwest poultry isolates in network analysis provide strong evidence for extensive interfarm transmission Figure 2 ; Technical Appendix Figure 2. Figure 3 Figure 3. Phylogeographic reconstruction of source–sink dynamics of highly pathogenic avian influenza virus A H5N2 outbreak, United States, – A Phylogenetic tree of hemagglutinin gene of H5N2 isolates. The geographic region and host type Our phylogenetic analysis suggests that the outbreak in the Midwest was initiated through multiple independent HPAIV H5N2 introductions with group 1 viruses of wild bird origin Figures 2, 3. To formally test the role of various host populations and elucidate the most likely route for viral spread in the United States, we integrated host type wild birds, domestic chickens and turkeys, backyard poultry into our geographic model. Our source–sink and phylogenetic network analyses suggest that the virus detected in the Midwest shares a common ancestor with the viruses detected in the Pacific flyway 1. Undetected infected hosts also could have migrated from the Pacific Coast through the Midwest, depositing infectious material on the US landscape, leading to the outbreaks in Midwest poultry populations. The virus subsequently rapidly transmitted between commercial turkey and chicken farms. The rapid rate of transmission suggests that underlying epidemiologic factors were driving the spread within and between farm systems. Bayesian simulation results showed that turkey farms and chicken farms were equally supported as the source of infection of domestic flocks after establishment of the virus in Midwest US farms Table. Although the discrete state transition rate from chicken farms to turkey farms was higher, this difference is likely an artifact of the substantially larger flocks found in chicken farms, which predominantly use layer houses. Our analysis showed high rates of transmission between turkey and chicken farms in the Midwest, probably confounding control efforts and contributing to the overall extent of the outbreak Figure 3, panel B. No support exists for viral spread from Midwest wild birds to Midwest commercial farms, suggesting that this epidemiologic pathway likely did not play a role in the spread of the outbreak after the initial introduction into the Midwest Table, which has further been supported by epidemiologic investigations. In addition, a transition from Midwest turkey to wild birds is supported by a high Bayes factor. In contrast with infrequent events in states along the Pacific flyway, H5N2 events in commercial and backyard poultry were reported during March–June in the Midwest. Our analysis demonstrates extensive interfarm transmission of virus subgroups 2a, 2b, and 2e but not of group 1 viruses, which could also infect wild birds, suggesting a change in the epidemiologic processes driving viral spread. Although a national level–structured surveillance effort was not initiated until July 19, H5N2 detections were far less frequent in the Midwest than in the Pacific flyway, suggesting few H5N2-infected wild

waterfowl were in the Central and Mississippi flyways during the outbreak period 32 , Nonetheless, detection of H5N2 viruses from wild birds in the Midwest in early and our phylogenetic analysis suggest that the HPAIV H5N2 moved from the Pacific flyway to the Mississippi and Central flyways as early as January or February , with subsequent interfarm transmission in and between states of the Midwest. When performing the source-sink phylogenetic analysis, we made assumptions regarding sampling and population structure, which should be considered when interpreting results. For instance, sampling in this analysis is most likely biased toward commercial poultry because of the nature of HPAIV reporting. Oversampling of a specific population might lead to overestimation of that group as a sink to viral migration 34 ; however, a secondary simulation in which viral host characteristics were continuously randomized to observe the influence of sampling heterogeneity 35 revealed that sampling does not appear to bias the ancestral reconstruction in this data. Also, in the model, we included the complete random population mixing assumption, even though a structured coalescent approach might have helped limit bias introduced from ecologic barriers that structure wild and domestic bird populations; many of the HPAIV sequences from poultry hosts used in our study represented a single farm. No data were available regarding the size of farms, number of animals infected on those farms, or number of farms affected, all of which might further bias spatial diffusion parameter estimates in a structured coalescent analysis. The hypothesis that HPAIV H5N2 was introduced into the Midwest through wild birds rather than poultry production channels is supported by epidemiologic evidence; during February 27-April 20, , H5N2 virus was detected 17 times across 5 states and 16 counties in different hosts wild bird, raptor, backyard flocks, turkey flocks , and epidemiologic links could not be found between Pacific Coast and Midwest farms for any virus subgroup. The widespread detection of the HPAIV H5 lineage in healthy wild birds 30 , subclinical infection with high virus shedding, and transmission among mallard ducks experimentally infected with HPAIV H5N2 36 support the hypothesis of HPAIV H5 dissemination to multiple states through wild waterfowl over a short period during wild aquatic bird migrations. For the outbreak in the Midwest February-June , events infections with viruses of groups 1 and 2nc detected early during the outbreak February-April probably represent independent introductions, followed by limited secondary spread, and events infections with viruses of subgroups 2a-e detected later during the outbreak April-June were largely caused by extensive interfarm transmission. Previous estimates of basic reproductive number and viral migration among host types in domestic and wild birds support our findings that HPAIV H5N2 rapidly spread between poultry facilities in the Midwest after the initial introduction of a virus of wild bird origin Consistent with our data, Gear et al. That conclusion was based on evidence of a close phylogenetic distance among sequences from poultry facilities, relatively infrequent cross-species transmission, and a high estimated proportion of virus diversity in addition to the lack of detection of this lineage in reservoir hosts when using other surveillance data. Our Bayesian simulation also supports the high probability of 2-way transmission between poultry and wild bird populations. The epidemiology of the HPAIV H5 detections and pathobiologic features suggest that the early H5N8 and H5N2 group 1 viruses detected in the United States were highly adapted to waterfowl and poorly adapted to chickens and turkeys 36 , 38 - Increased virus adaptation to chickens and turkeys, specifically poultry, was observed among the H5N2 group 2 viruses and not the H5N2 group 1 viruses 39 , Examination of mutational frequencies and patterns showed common mutations among H5N2 subgroup 2a-e viruses fixed in the population during circulation in poultry. In particular, substitutions in the nucleoprotein amino acid MV, MI were identified among H5N2 group 2 viruses from the United States and a virus isolate from a chicken in British Columbia 11 and has been suggested as a determinant for virus adaptation from ducks to chickens Consistent with our previous study 39 , we identified common substitutions RK polymerase basic 1, AV polymerase acidic, N60H nuclear export protein, KT nonstructural protein 1 in H5N2 group 2 viruses that increased infectivity and pathogenicity in chickens in comparison with group 1 viruses. In addition, we found substitution SP at an antigenic site of the HA protein, which might affect the immunogenicity profile of the virus The H5N8 virus came from East Asia, entered North America during the fall migration season 7 , and spread rapidly along the wild bird flyways in the United States starting in December In the Pacific flyway, Eurasia H5N8 virus circulated in wild birds and disseminated to backyard and commercial poultry farms largely by point-source introductions; a single detection occurred in a backyard

flock in Indiana outside the Pacific states. These H5N8 and H5N2 viruses cause substantial illness and death in poultry but have, thus far, not been implicated in human infection. Mammalian studies in mice and ferrets suggest low public health risk 43 , Enhanced biosecurity is required to prevent the introduction and dissemination of HPAIVs across the poultry industry; the role that human activity can play in viral spread via fomites should not be underestimated. Continued surveillance, virus characterization, and infectivity studies remain invaluable to monitoring the spread and evolution of these H5 viruses; such efforts could further the design of improved prevention strategies. Additional research is needed to decipher the potential mechanisms of virus introduction into poultry systems. His research interests include molecular epidemiology and host-pathogen interactions of avian influenza viruses. A detailed list of acknowledgments is provided in Technical Appendix Table 4. Evolution, global spread, and pathogenicity of highly pathogenic avian influenza H5Nx clade 2. Role for migratory wild birds in the global spread of avian influenza H5N8. How a virus travels the world.

**Chapter 4 : The Dynamics of Transformation: Tracing an Emerging World View by Grant Maxwell**

Leman, J. , *The dynamics of emerging ethnicities: immigrant and indigenous ethnogenesis in confrontation* / Johan Leman (ed.) P. Lang Frankfurt am Main ; New York Wikipedia Citation Please see Wikipedia's template documentation for further citation fields that may be required.

Nov 2, Fundamental concepts about culture and family dynamics should be understood by providers so they may best address how the unique family experience of an individual patient affects decision-making, compliance, and successful treatment outcomes. Interdependence Cultures differ in how much they encourage individuality and uniqueness vs. Individualistic cultures stress self-reliance, decision-making based on individual needs, and the right to a private life. Extended Family Models In western cultures, and particularly in European American culture, families typically follow a nuclear model comprised of parents and their children. When important health care-related decisions must be made, it is usually the parents who decide, though children are raised to think for themselves and are encouraged to act as age-appropriate decision makers as well. Upon reaching adulthood, when parental consent is no longer an issue, young American adults may choose to exercise their right to privacy in health care matters. This is markedly different from collectivist cultures that adhere to an extended family model. In cultures such as American Indian, Asian, Hispanic, African, and Middle Eastern, individuals rely heavily on an extended network of reciprocal relationships with parents, siblings, grandparents, aunts and uncles, cousins, and many others. Many of these people are involved in important health care decisions, including some who are unrelated to the patient through blood or marriage. For example, in some Hispanic families the godparents play a critical role. Multi-generational Households It is very common for families in collectivist cultures to establish multi-generational households. This is less true when a family becomes acculturated in the United States or other western countries where privacy is more highly valued and in cases where socio-economic gains create opportunities for greater independence. In most multi-generational households, there are at least three generations living together; the grandparents are expected to live under the same roof as their adult children and grandchildren. This is the reverse of how European American family households usually function. In traditional Asian families, it is the oldest male in the family who brings his bride to live with his parents. The daughter-in-law is often expected to be submissive to her mother-in-law who rules the roost. In Hispanic families, grandparents from either side may live under that same roof as their children and grandchildren. Mothers often gain a great deal of support from the grandmothers in domestic matters, but this varies depending on the dynamics unique to each family. Who are the authority figures? In Asian and Hispanic traditional families, the father is the main authority figure. He will most often make decisions about matters outside the home, speaking for the family in public settings and signing consent forms. It is usually a female figure who takes charge of domestic life. In unilineal cultures, family membership is traced either through a male or female ancestor. Thus it makes sense that a Navaho maternal uncle might bring his nephew into the hospital expecting to be empowered to sign an informed consent. Similarly, in both American Indian and African American families, role flexibility can be an important issue. It is not uncommon for Native American grandparents to raise grandchildren while the parents leave the reservation to find work. In African American families, the mother sometimes plays the role of the father and thus functions as the head of the family. In addition, older children sometimes function as parents or caretakers for younger children. The concept of role flexibility among African American families can be extended to include the parental role assumed by grandfather, grandmother, aunts, and cousins. Boyd-Franklin It is a good idea to determine if older children will be involved in patient care and to include them when possible in patient care training. This is important to consider for all multi-generation households. Family Dynamics and Acculturation Finally, it is important to consider the enormous stresses families encounter in the process of acculturation due to sudden and radical shifts in family dynamics. Parents in a recently migrated family often are aligned with the culture of the country of origin, while their offspring are likely to adapt to the dominant culture more rapidly. This often leads to intergenerational conflicts. For example, a father may lose his traditional role as the head of the family if his wife begins to work outside the

home, earning income and greater independence. Similarly, if his children quickly adopt the attitudes and values of the new dominant culture, he may find it harder to communicate with them. Both parents and grandparents may feel a loss of status due to language barriers, especially if their children learn the language of the dominant culture more quickly. This can be especially problematic in healthcare settings where responsibility is shifted to younger family members who can navigate the health care system better than their parents can. In cases where children are able to communicate with health care workers in English, they may be asked to interpret for their parents. This leads to a host of potential problems for the family, including feelings of shame and betrayal that children would relay information of a personal nature to someone outside the family. This is one of the main reasons children should not be used as interpreters. Summary Because cultures adapt and change, making assumptions about family dynamics is problematic; families in the United States today from all cultures display a variety of configurations. One can, however, expect that families from more traditional cultures not acculturated in U. There are many aspects of culturally-based family dynamics not addressed within the scope of this newsletter article. Some of the best resources for learning more about cross-cultural family dynamics come from the mental health and child development fields. A few resources To Further explore this topic: All rights reserved Search for:

### Chapter 5 : Emergence - Wikipedia

*Trove: Find and get Australian resources. Books, images, historic newspapers, maps, archives and more.*

### Chapter 6 : The U.S. Market for Ethnic Foods, Volumes : Market Research Report

*The Dynamics of Emerging Ethnicities, szerző: Kategória: Ethnography, Á•r: 6 Ft.*