

FASHION FOUNDED ON A FLAW

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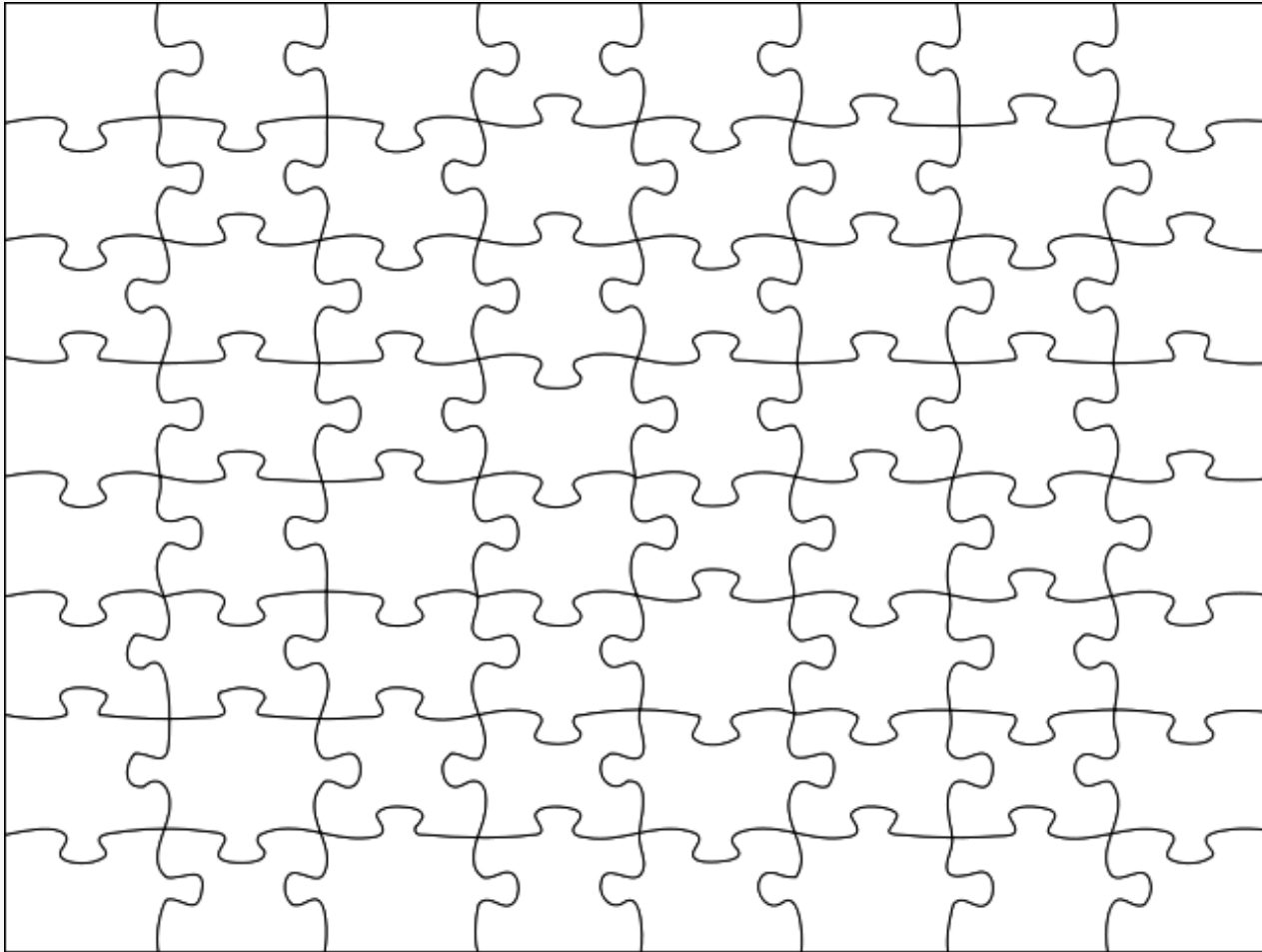
What, I guess, we commonly believe

- **The world is not 'flat'** (*but how might we partition populations?*)
- **The past matters** (*but we should not overstate lock-in due to initial conditions*)
- **Culture matters** (*but what is 'it' and how does it operate?*)

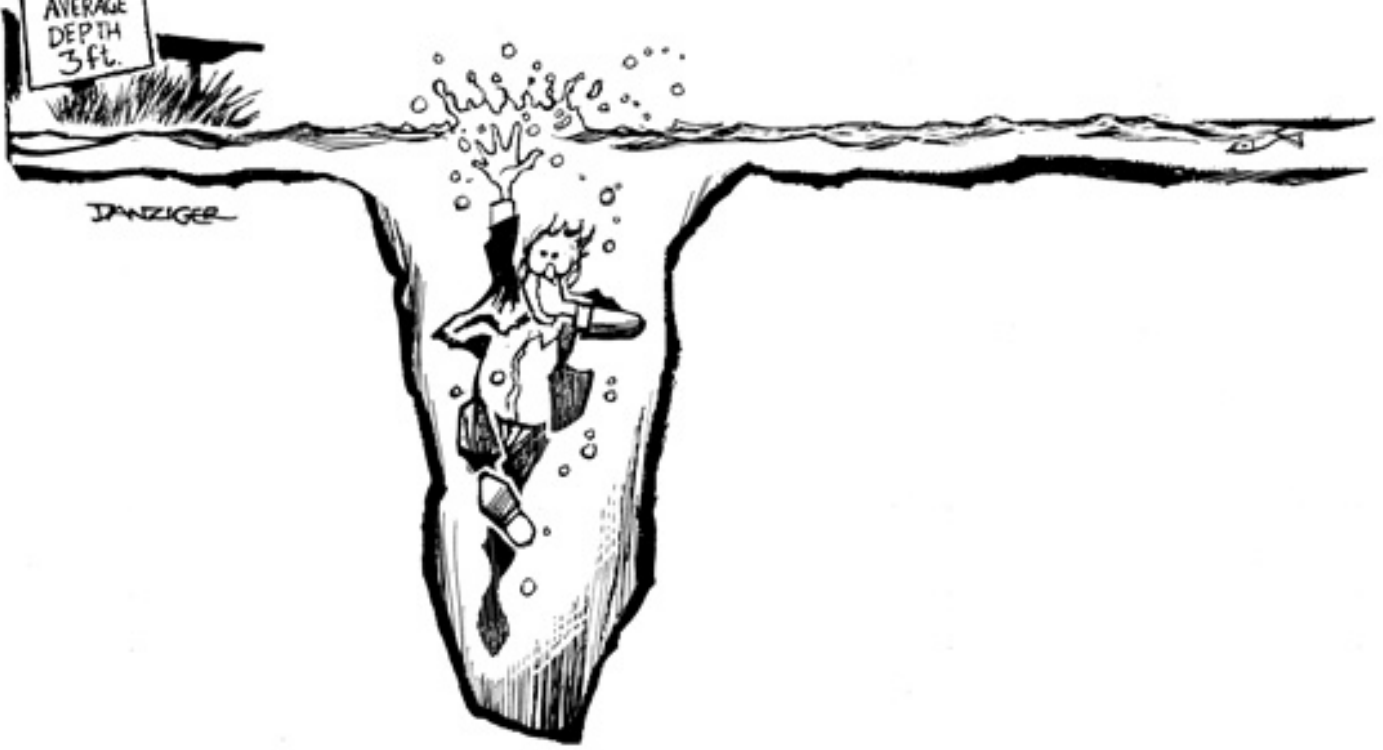
- The idea of ‘culture’ is more easily invoked than defined.
- I focus on one notion of culture: ‘national culture’ and as defined as ‘values’

- The ontological status of ‘national culture’; its depiction as bi-polar value ‘dimensions’; the validity of measurements of those dimensions; and the representativeness of samples, have been the object of considerable debate.
- Here I addresses a different issue: a reliance on the *ecological fallacy* (Selvin, 1958).
- The fallacious inference that the characteristics (concepts and/or metrics) of an aggregate (historically called ‘ecological’) level also describe those at a lower hierarchical level or levels.

The Ecological Fallacy



FLAW of
AVERAGES
AVERAGE
DEPTH
3 ft.



DANZIGER

Supposed: What is true at one sub-national space is necessarily true at all other sub-national spaces.

- Convent



- Brothel (in the same country)



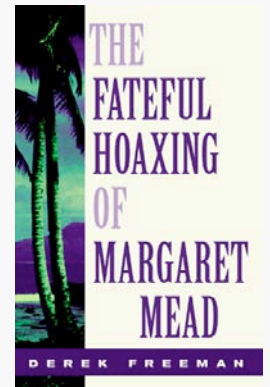
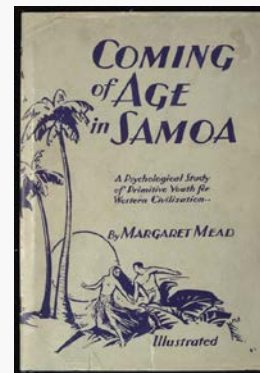
- The objection here is not the generation of hypotheses from ecological comparisons.
- Some of the recent discoveries of the causes of cancer (e.g. dietary factors) have their origin in the generation of such hypothesis from systematic international comparisons which were then investigated in lower level studies (Pearce, 2000).
- The objection is to the doctrinaire (and invalid) transfer of aggregate results to lower levels i.e. to the fallacious assumption that what characterizes, or is believed to characterize, entire national populations is also representative of each sub-national population.

- The fallacy is also sometimes called the “disaggregation error” (Van de Vijver & Poortinga, 2002); or “the fallacy of division” (Aristotle, 350BC).
- An illustrative example is: the false derivation that any Japanese is collectivist because Japan, it is supposed, is culturally a collectivist country.

- The other cross level extreme is the ‘atomistic fallacy’ (also called the ‘fallacy of composition’ or the ‘reverse ecological fallacy’), that is, generalizing from individual or small n data.
- For a national culture example of this fallacy, see Kets de Vries, 2001. For a discussion of the fallacy see, Liberson, 1991.

Generalizing from small-n's.

- Thomas beats his wife,
therefore all husbands
beat their wives.
- Hofstede's example of
Twelve Angry Men.



- Across the social sciences, deductive depictions of lower levels have been speculatively based on a host of higher ecological representations, not just the national.
- For example, characteristics of lower levels have been inferred not only from nations (aka countries) but also from regions (the West; ‘Anglo-Saxon’ countries; Asia, and so forth); religions, time periods, and “civilizations” (Huntington, 1996; cf. Said, 2001).
- The level lower whose features are deduced from a higher national level may be an individual, a group of individuals, an organization, a sector, a segment, a class or other social categorisation, a generation, a locality, a neighbourhood, an occupational or other work classification.

- Although the term “**ecological fallacy**” itself was coined later by Selvin (1958) in his critique of Durkheim’s research on suicide, awareness of the methodological crime of assuming that results derived from aggregate data are the same as, and therefore can be substituted for, those which would be obtained from individual level data, had been popularized earlier by Robinson who in a seminal paper demonstrated a striking discrepancy between ecological and individual correlation (1950).

- For example, he showed that, the correlation between illiteracy and nativity (foreign-born vs domestically born) at the individual level was positive ($r = 0.12$) while at the state level it was negative ($r = -0.53$).
- In short, he showed that correlations computed with aggregate data bear no consistent relationship to correlations based upon individuals (Subramanian, *et al.*, 2009).

- Correlation computed at the individual level can differ substantially not only in *magnitude* but also in *direction* (i.e. whether positive or negative) from those calculated using the corresponding statistics based on geographic areas or groups.

- Bond (2002) illustrates that the cross level conflation error applies not only to culture dimension scores and directions but also to the cultural *concepts* or dimension labels in that the “same labels” are inappropriately and inaccurately used for “constructs at different levels of analysis, individual and national, and thus confound the two” (2012, p. 678).
- As Firebaugh states “The demystification of cross-level bias begins with the recognition that an aggregate variable often measures a different construct at the individual level (1978, p. 560)

- Clearly, aggregation/disaggregation leads to misrepresentation whenever populations are not wholly homogeneous. That point is illustrated by the joke about the statistician who drowned in the river whose average depth was 5 centimeters.
- But population homogeneity does not debar the fallacy

Decisive or indecisive?

- Schwartz (1994), citing, Zito (1975), gives the illustrative example of the discrepancy between a hung jury at two levels. As a group, a hung jury is an indecisive jury, unable to decide the guilt or innocence of the accused.
- However, attributing that characteristic to the individual members of the jury would be incorrect as the jury is hung because the individual members (or a majority) are very decisive – not indecisive.
- So, indecisive at one level, decisive at another.



- Both Hofstede and GLOBE explicitly warn against the ecological fallacy (Hofstede, 2001; House, Hanges, Javidan, Dorfman & Gupta, 2004, for instance).
- “Hofstede’s dimensions of national culture were constructed at the national level. They were underpinned by variables that correlated across nations, *not across individuals or organizations*. In fact, his dimensions are meaningless as descriptors of individuals or as predictors of individual differences because the variables that define them do not correlate meaningfully across individuals.” Minkov & Hofstede, 2011: 12(emphasis added).
- House & Hanges (2004, p. 99) say that it is inappropriate to assume that “cultural-level characterizations and relationships apply to individuals within those cultures”

- Gerhard & Fang (2005), and others, have demonstrated that Hofstede's depictions of national culture do not apply at the individual level.
- Recalculating Hofstede's data, they show that only a tiny fraction (approximately 2 to 4 per cent) of differences in individuals' 'values' is explained by national differences.
- Hofstede himself acknowledges the low explanatory power at the level of individuals noting that "of the total variance ... only 4.2% is accounted for" by nationality (1980, p. 71; 2001, p. 50).
- Oyserman, Coon and Kemmelmeier's analysis of all cross-national empirical research studies published in English on individualism and/or collectivism (the 'dimension' of national culture which has received the most empirical attention) found that country explains only 1.2 per cent of the variance in individual-level individualism scores, that is 98.8% of variance in individualism is unexplained by country (2002)

- Whilst it is appropriate to acknowledge these admissions, both Hofstede and GLOBE, **and not just many of their followers**, also apply their national level dimensions to the level of individuals and other sub-national levels.
- Earley points to Hofstede's and GLOBE's “entangle[ment]” of levels (2006, p. 923).
- Brewer & Vanaik state that the “confounding of the levels of analysis permeates through the Hofstede and GLOBE books and publications on national culture dimensions both in the definitions of their dimensions and the discussion of their findings” (2012, p. 678).
- I don't pursue this ‘not-walking-the-talk’ here (see my paper).

- Employment of the fallacy is not only illogical, but it also usually leads to false results.
- As Robinson observes, whilst it is theoretically possible for ecological and individual correlations to be equal, the conditions under which it can happen are far removed from those ordinarily encountered in data (1950, p. 341).
- There is no way of predicting in advance the degree of severity of divergence.
- Almost any theory will generate *some* correct results but analysis which relies on the fallacy cannot demonstrate the validity even of correct results.
- Relationships identified at one level may be true of a lower level but alternatively they may be stronger or weaker at the lower level; they may not exist they may be different; or they may even be in the reverse direction (Klein and Kozlowski, 2000; Ostroff, 1993, for instance).

- The ecological fallacy has been addressed quite extensively in studies of epidemiology and electoral behaviour. It has not been widely considered in the management and business literature.
- And it appears to have largely been ignored in popular research methods textbooks in that arena (see Saunders *et al.*, 2012, for instance).

- The error is extensive in practitioner literature, in training programmes, and in everyday stereotyping.
- An example from practice is given by Breidenbach and Nyíri (2009, p. 262), who report that the Chairman of Daimler-Chrysler decided not to appoint a Japanese person as a manager of plant in India because he was convinced that “Shinto culture” and “Hindu culture” “do not go together”. A Buddhist Japanese manager, with a US MBA, would, it was assumed, be totally and irrevocably ‘programmed’ by a uniform Shinto culture and all Indians programmed with a common Hindu one. A national notion of culture was supposed to have programmed each individual within the population. A mythical singularity - Hindu culture – was assumed to be carried by all workers in the Indian factory, who incidentally were mainly Muslims.
- The Muslim population of India (16.4 million) is only marginally smaller than the Muslim population of Pakistan (18.6 million) (CIA, 2013).

Untrue and Implausible

- Generalising about lower levels within a country on the basis of ecological data relies on the fallacy and is therefore illogical.
- But it can also be demonstrated that downward determination of behaviour by national culture is **untrue and implausible**.
- That argument is now explored.

- The empirical evidence against the overdetermining notion of national culture is of two types.
 1. The absence of evidence supporting determination
 2. The counter-evidence

Absence of Evidence

- There is zero empirical evidence in either Hofstede's or GLOBE's questionnaire based calculations that national culture (as values), or statistical representations of those cultures, influences individuals' *behaviour* (Gerhard & Fang, 2005).
- GLOBE's descriptions of "practices" are bizarrely not practices in the sense of action or artifacts but merely another depiction of values (Earley, 2006).
- The possibility of identifying a national culture on the basis of responses to questionnaires is highly contested. But that debate aside, **analysis of those responses no matter how statistically sophisticated, not only does not, but cannot, demonstrate a causal link between a national culture (or its representation) and an individual's behaviour because the data analysed does not include observations of such behaviour.**
- An *a priori* belief in that link must be imposed. It cannot be derived from the data.

Counter-Evidence

- Secondly, there is a vast body of empirical data depicting considerable behavioural variation within countries (see, for example, Camelo *et al.*, 2004; Campbell, *et al.*, 1991; Crouch, 2005; Goold and Cambell, 1987; Kondo, 1990; Law and Mol, 2002; Lenartowicz *et al.*, 2003; O'Sullivan, 2000; Streeck and Thelen, 2005; Thompson and Phua, 2005; Tsurumi, 1988; Weiss and Delbecq, 1987; Yanagisako, 2002).

That is not to say that there are no uniformities

- Try driving on the left-hand side of the road in Germany or publically drinking alcohol in Saudi Arabia, for example.
- But that should not blind us to diversities within countries. Nor are the uniformities evidence of the causal influence of national cultural values.
- “Social action has many ingredients. Laws, institutions, monarchs, the invisible hand, rituals, coercion, social contracts are amongst the explanations for uniform social practices. It is empirically incontestable that under certain conditions it is possible to detect common social action without reference to a unified and commonly accepted cultural system” (McSweeney, 2009, p. 938).

I now consider reasons why claims based on the ecological fallacy are implausible, including:

1. Causal complexity
2. Varieties of culture
3. Varieties of psychological features
4. Values are not invariant
5. Relationship between values and behaviour is uncertain
6. Cultural incoherence
7. The opaque, slippery and elusive ontological status of 'culture'
8. Nations as "imagined communities"
9. Individuals are not cultural 'dopes'

1. Causal Complexity

- Social phenomena are complex not only because they are almost always the outcome of multiple influences but also because those influences can combine in a variety of ways and at different times.
- The combinatorial, often complexly combinatorial, nature of social causation makes identification of causation (or prediction) highly challenging and usually far beyond the capability of unilevel analysis even when the latter is well executed.

- Attributing 'lower' level behaviour to exclusively national culture ignores the multiplicity of potential influences – *other cultures* active within a country and *non-cultural factors*.
- There may be several *microlevel independent variables* and several (not just one) *ecological variables*. These may be clearly separated, nested, overlapping, or intermingled. They may be influential at different times, some continuously and others intermittently.

If causal influences other than, or additional to, a 'national culture' exists there must be intra-country variation.

Only making culture *the* causal force - not just *a* causal force - can intra-country diversity be denied.

Although a variety of within-country 'sub'-cultures are often acknowledged in the psycho-national culture literature - they are not incorporated into the explanation of action and thus acknowledgement is an empty gesture.

Conflating Culture And Values

- Even if causal complexity is ignored, the attribution of determinate power to culture as *values* is problematic for the following reasons:-

Varieties of Culture

First, one can distinguish between at least five different conceptions (and locations) of culture:

1. Psychological (incl. culture as subjective values)
2. Mentalism (or cognition)
3. Textualism
4. Intersubjectivism
5. Practice

If we attribute causal influence to some or all of these, in addition to culture as values, then some diversity at least must be deduced.

- Second, the values notion of national culture focuses on just a subset of the psychological, that is values. The possible roles of a host of other psychological constructs (desires, goals, motives, needs, traits, aversions, tastes, interests, likes, attractions, dispositions, valences, attitudes, preferences, cathexes, sentiments, and so forth) are ignored

- Third, there are a great many definitions of values, not just the singularity implied in the national culture literature. As a result an implicit or explicit definition is contestable and “definitional inconsistency has been epidemic in values theory and research” (Rohan, 2000, p. 255)

- Fourth, the assumption that values are unaffected by context, that they are invariant transituational preferences, is at odds with an immense amount of contrary evidence (Ewing, 1990; Shweder, 1999).

- Fifth, a strong and direct influence of values on behaviour is treated as a given. Values are taken as cultural imperatives that lead to distinct action. But this is at best a highly contested view (Joas, 2000; Rohan, 2000; Swidler, 1986).
- “Current theories give little guidance for understanding how values shape behavior” (Hitlin & Piliavin, 2004, p. 360).
- That is not to say that values may not have an influence on behaviour, but what we know about the highly mediated relationship is limited and values are but one type of a host of possible determinants (Williams, 1979).

The assumption of coherence

- Sixth, the assumption of causal primacy of culture (values or whatever) is logically necessary, but not sufficient, to imply uniformity of social action.
- The culture must also be assumed to be **coherent**: that is, that it contains no contradictory elements so that it is impossible to construct incompatible, ambivalent, or contradictory propositions within that culture.

The assumption of coherence

- ‘Look before you leap’ vs. ‘he who hesitates is lost’
- Clifford Geertz, in harmony with what has become the accepted view in anthropology, dismissed the coherence view of culture which he ridiculed as a “seamless superorganic unity within whose collective embrace the individual simply disappears into a cloud of mystic harmony” (1965).
- Cultural coherence allows no room for individuals to exploit – it is a theory of cultural automatons/dopes. “Click, whirr, act” Cialdini, (2001). We are social but not entirely socialized (Wrong, 1961) and it excludes the possibility of endogenous change (Archer, 1988).

Cultural impurity

Winslow Homer's *Eight Bells* held out to be an example of distinctly American art. But ...
Cross-Atlantic influences can readily be discerned.



Tempura, regarded as an example of unique Japanese cuisine. But ...
A cooking method copied from Portuguese missionaries in Japan.



What has causal force?

- Seventh, in the national culture literature employing the ecological fallacy, the ontological status of culture is opaque, slippery, and elusive. Poorly specified conceptions slide unclearly and inconsistently between each other (Knight, 1982; Taras, *et al.*, 2010).
- Is national culture a statistical average? Something real? Or what?

- The attribution of constitutive power to a statistical average, distribution, or whatever relies on two errors.
- The first is the metaphysical fallacy of ‘misplaced concreteness’ (Whitehead, 1925) erroneously viewing summary statistics as hard realities,
- The second related error is “statistical fatalism” (Hacking, 1990) attributing deterministic power to a statistical calculation.
- The idea that statistical distributions are ‘laws’ was briefly very fashionable in 1870s. It was mocked by Charles Dickens in *Hard Times* (1854)(Hacking, 1983, 1990). Some averages may have predictive power (Friedman, 1953) – but that is a different type of claim. Averages are not causes. We do not meet, compete, negotiate or form friendships with averages (Bidney, 1944; Duncan, 1980).

- The notion of national culture as real is similar to what Hegel, for instance, called *Geist* (an essential and immutable objective spirit). As White (1968) puts it: “If the behavior of a people is determined by its culture, what determines the culture? The answer is that it determines itself. Culture may be regarded as a process *sui generis*” (in Duncan, 1980, p.185).
- There are similarities between this doctrinal holism, the depiction of culture as a superorganic fact standing above individuals, responding to laws of its own, and the historic biological notion of ‘vitalism’ which treated life as the product of a mysterious *vis vitalis* or life force.

Try this test

- When some event – positive or negative – is attributed to ‘culture’, or when the basis of improvement is said be a ‘change of culture’, replace ‘culture’ with a made-up word, for example, ‘bagabanga’.
- Is your understanding any the less? What is lumped together as culture – national or other - needs to be unbundled.
- As Adam Kuper observes: “unless we separate out the various processes that are lumped together under the heading of culture, and then look beyond the field of culture to other processes, we will not get very far in understanding any of it” (1999, p. 247).

- The objection here to the notion of a distinct and enduring causal national culture is an objection to the attribution of ontological status and autonomous and regulatory power to a supra-individual abstraction (Bourdieu, 1977; Murdock, 1972; Radcliffe-Brown, 1940).
- It is individuals who act. The notion of culture as a macro or emergent social force might however seem to be supported by the apparent evidence of collective or aggregate effects, for example, by the apparent effects of ‘financial markets’ on interest rates on government borrowing. But ‘markets’ are composed of the opinions, actions, or whatever, of individuals – they are not real in the sense of having autonomous social force.

- Contrary to a “core nationalist doctrine” (Smith, 1983, p. 21) that humanity is naturally divided into nations, no country is truly primordial - most are of quite recent origin founded in the nineteenth or twentieth centuries.
- But nations are “mental constructs sustained in being by imaginative labour and discursive habit” (Cubitt, 1998, p.3). Through what Annette Ching calls the “social construction of primordality” (in Yelvington 1991, p. 165).

- **State boundaries may be unstable.** Poland, for instance, as a nation-state ceased to exist in the late eighteenth century and was only reconstituted with quite different borders at the Treaty of Versailles in 1919 when the borders of many other European countries were radically altered. After World War II, the borders of Poland and many other countries were again changed.
- **Land and people formerly in one state may be re-designated as part of another state.** For example, Alsace-Lorraine was returned to France most recently in 1945 (having yo-yoed back and forth over the previous century).
- **Whole states or parts of states may be annexed (or re-claimed)** as the north of Cyprus was by Turkey.
- **New states may be formed by seceding from other states** (e.g. Bangladesh). States may be formed by the voluntary or involuntary combination of multiple states (for instance, Germany in the late nineteenth century and again in the late twentieth century).
- **States may fragment into multiple states**, violently (for example, the break-up of Pakistan into [West] Pakistan and Bangladesh) or peacefully (for example, the separation of Czechoslovakia into the Czech Republic and Slovakia). Writing about the determination of national boundaries at the Versailles Peace Conference in 1919, Arthur Balfour, the UK's Foreign Secretary angrily observed the spectacle of "all powerful, all ignorant men sitting there and partitioning continents"

- Ninth, Of course, each individual is not an ‘island’. Individual choice requires the employment of a somehow socially shared framework or rather frameworks (Hodgson, 2007).
- But ‘share’ is a very imprecise notion. To what extent is it shared?

- Even if the exclusive causal force is assumed to be culture, nationally unique and common behaviour can only be deduced if the degree of sharedness is assumed to be total. The fallacy followers make that assumption. National behaviour patterns are seen as having been internalized by individuals. Thus, Hofstede, Hofstede & Minkov refer to culture as the “mental programming” (2010, p.4) – culture as the central processing mechanism common to each national citizens’ mind.
- This is what Wrong (1961) rejects as an “oversocialized” notion of individuals. The potential for individual agency is effectively denied by reducing a person to what Garfinkel critically calls a passive “cultural dope” (1967, p. 66) – dependent and impotent.

More than the standard fallacy

- Treating national culture as causal of behaviour within countries makes claims even beyond that in the standard “ecological fallacy” of supposing conceptual and/or empirical equivalence between hierarchical levels.
- Where determinism of national culture is supposed, the “misuse” (Brewer & Venaik, 2012) may more fittingly be called the *ecological mono-deterministic fallacy*. I have described and challenged a series of illogical arguments and invalid suppositions on which that fallacy relies.

- What is to be done? In short, the main policy implication of the arguments here is: don't suppose that descriptions of national cultures are a multilevel 'answering machine'.