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Malvoisine

Bad Neighbours

In the same year [June 1216], Louis [prince of France], with a powerful force of knights and soldiers laid siege to Dover castle, having first sent to his father [Philip II] for a petraria [stone-thrower or trebuchet] which was called in French 'Malvoisine;' and the French having disposed this and other engines before the castle, they began to batter the walls incessantly.

Roger of Wendover 1235¹

Culture is knowledge that makes 'we'-groups: demes. A 'we'-group is a locus of identity and cooperation. It determines, in advance of individual choice, with whom we may cooperate, and which other groups we may oppose. It is built around a common inheritance in ways of seeing the world and interpreting its contents and meaning. Culture is a system of references – through symbols and artefacts, and all manner of practices and prospects – that forms a knowledge base for a 'we'-group. Culture is group-making knowledge.

The 'product' of culture is not the work of art or way of life, but the *deme* that in turn makes *newness*, in an open-ended, adaptive mode of *productivity*, not according to a pre-existing definition of what each 'culture' is said to 'contain'; that is, facing the group's future, not the past. Thus, the 'product' of culture is a *deme*: a distinguishable subpopulation of semiospherically organized and socially networked non-kin (externalized brains), with common 'institutions of language' and rules for the production of meaningfulness within a contextualized

¹ Roger of Wendover's *Flowers of History, Comprising the History of England from the Descent of the Saxons to A.D. 1235* (ed. J. Giles, 1849), p. 374: (<http://archive.org/stream/rogerofwendovers02rog eiala#page/374/mode/2up>). Roger of Wendover's section of this MS covered the years 1216–35; the MS was first printed in 1567; this version was published in 1849; the relevant page (374) can be read at Archive.org. See also: *Wikipedia*: Flores Historiarum.

‘niche’ (actual, like a city, or virtual, as online). Demes are largely scale free, because they can range in size from a ‘small-world’ social network of six or seven persons (a ‘hunting party’) to the global ‘community’ of 7 billion individuals. But even when we imagine all humanity as one deme, as does the Australian multicultural broadcasting network SBS TV with its tagline: ‘Seven Billion Stories and counting’,² there are still many differences and sub-subpopulations to account for across that number.

We are looking for the ‘productivity’ of scale, of increasing complexity and proximity. But we are also looking for ‘creative destruction’ among demes, to ascertain whether actions that seem destructive according to one logic, for example, invasion, or besieging one’s neighbour, may prove to be ‘productive’ according to another, for example, by consolidating knowledge and transmitting it to descendant demes.

The themes of this chapter are two interrelated aspects that unfold from this: namely what happens as culture grows to *global scale* – and thus as a ‘we’-group extends to its global limit. Who or what takes the role of ‘they’; or is it possible to maintain group cohesion without ‘bad neighbours’? Demic growth is a process that sometimes appears to be gradual and incremental, but sometimes it is ‘non-linear’, achieving Romer’s (1990) ‘take-off’ or ‘whoosh’ (McCloskey 2010), a ‘tipping point’ (complexity theory) or ‘explosion’ (Lotman 2009). In the latter case of rapid expansion, the question arises about what happens at each *boundary* of other ‘we’-groups along the way – a clash we call ‘Malviosine’, literally ‘Bad Neighbour’, which marks adversarial competition between ‘we’-groups, or demic (cultural) conflict, of increasingly global proportions.

Exponential ‘take off’ is not a cultural phenomenon per se; it is in large part caused by the economic and technological forces that drive globalization, such as the flows of factors of commodities, labour, capital and information, or advances in communication and transport. Local cultural phenomena can rise to global significance on the waves of this process, through a phenomenon we can dub ‘innovation at the margins’ (Tacchi 2004: 100), or what Leadbeater and Wong (2010) call ‘learning from the extremes’. Rapid, large-scale expansion is also a cultural phenomenon, because with ‘demic diffusion’ the culture of one local place is pushed into others, potentially across the globe (Cowen 2004).

² ‘Seven Billion Stories’ spells out the acronym of SBS (officially, Special Broadcasting Service). SBS has linked this slogan to the UN’s ‘7 Billion Actions’ initiative: See www.sbs.com.au/7billion.

Evolutionary cultural dynamics become a site of group conflict. As knowledge grows, so does culture. Where the 'logic' of scientific discovery may be a Popperian (1963, 1972) evolutionary process of conjecture and refutation, culturally it can give rise to intergroup warfare.

H. sapiens is an extremely groupish animal; that is our evolutionary niche. We cooperate, voluntarily, more than any other life form (Nowak 2011). We are a language-using, high-trusting, instinctively cooperative animal and, to a first approximation, this is why we have culture. Culture is the evolutionary mechanism by which we achieve group-based cooperative pay-offs (Mesoudi 2011). 'High' culture – J. S. Bach or William Shakespeare – may well include the 'flower of human achievement'. However, it is 'ordinary culture' (Williams 1958) that holds everyone together in a deme, however large. Demes form tightly coordinated groups of trust and identity through shared meaning making. Our groupishness is also groupish: we make in-groups and out-groups (Tajfel 1970, 1974) or universal-adversarial 'we'-groups and 'they'-groups, (as examined in Chapter 3) – and thus cultural growth implies group growth, which implies that social and cultural *dynamics* work along the *boundaries* of groups and through the creation of *changed* groups and *new* groups. Importantly, this process also works through group *conflict*.

At the global scale, rapid expansion becomes a major problem for the theory of culture, especially since the *study* of culture has long been accepted as the means for forming judgement, taste, ethical comportment and appreciation of the inner life of others, especially among governors, administrators and statesmen, from Sir Thomas Elyot's (1531) *Boke named The Governour* to the 'imperial archive' (Richards 1993) and the foundations of modern literary and aesthetic criticism. Such a disciplinary history may be interested in how conflict is conducted – for instance in novels and artworks – but the next step, seeing culture *itself* as conflictual and aggressive to out-groups – is not generally taken, because if the question of violent conflict is addressed at all, the purpose is to consider how to minimize, regulate or overcome it, rather than to analyse it as a causal component of cultural identity and interaction. So the question remains: what happens when cultural growth interacts with groupishness? Can human cooperation (among fellow-deme members) and conflict (with outsiders) be integrated, such that even *conquest* (of one deme by another) actually results in greater *cooperation* at higher levels of integration, by consolidating and extended the distribution of otherwise local knowledge? Does expansion result in a multicultural global village, or in a cultural Cold

War? How do people navigate this space? Is this a global commons? Or is it a realm of contestation?

Big cooperation – Universal or adversarial?

The problem of large-scale cooperation has been approached in many different ways in the sciences. William Hamilton's theory of kin selection (Hamilton 1964) is the foundation stone in explaining altruism in biology (altruism = individually costly cooperation, making groups). Kin-selection theory offered a gene-centred explanation of how social insects (*Hymenoptera* such as bees, termites and ants) build large cooperative societies through the concept of 'inclusive fitness'. The key fact is that a colony is made of closely related individuals (e.g. the honeybees, *Apis cerana*, in a beehive are all sisters). E. O. Wilson (2012) has challenged this theory of the evolution of 'eusociality' by proposing *multilevel selection* rather than kin selection (Nowak 2011). The precise nature of the evolutionary mechanism by which large-scale cooperative groups emerge in nature is debated, but it is not our primary concern here. Our specific concern, instead, is with the role of culture in cooperation.

Theories of kin selection or multilevel selection do make demands on a range of informational and communication properties between individuals in a group. For a start, individual animals need to be able to recognize kin (genetic relatedness) and to discriminate behaviour based on recognition. A beehive or termite colony is also a complex information processing and communicative system that is achieved with various chemical messengers (pheromones, for instance), and it is well known that foraging bees communicate to others in the hive the direction and distance to nectar, pollen and water that they've discovered through the 'waggle dance'. This may be dancing, but it is not culture. Indeed, bee dancing is as much a part of bee genes as are bee wings. It is a closed communicative system – bees can transmit GPS coordinates to their sisters, but not awareness of their self, sociality or knowledge. But humans are different. Human dancing is cultural (Blacking 1984) and, while it may serve similar functions of communication (whether expressive, costly signalling, ritualistic or innovative),³ it is a learned and acquired behaviour that has *meaning within a group*. Bees' dance repertoire is restricted, but human dance forms are open,

³ For example, since 2008 the American Association for the Advancement of Science has supported a contest to 'dance your phd': <http://gonzolabs.org/dance/>.

such that the waltz, ballet or folk dances send a very different message from pogo, twerking or the Apache dance.⁴

Mark Pagel (2012) argues that open-ended human cooperation is special because it has been able to achieve a much larger scale than other organisms, including other eusocial organisms, by developing extended kin mechanisms, or ways of treating others as ‘honorary kin’. Pagel explains that this is what language does. By extension, the work of identifying ‘honorary relatives’ is the role of all other cultural markers (or ‘social text’), whatever subsidiary functions they may perform, and this in turn underlies the act of *interpretation*, which is also groupish, belonging to *demes* (as opposed to *description*, as in scientific method and mathematical logic). Pagel argues that this is why there are so many languages (or dances, or genres of artistic expression, and so on). Importantly, it is why we do not end up with a single language, even if that would be functionally efficient, were communication of messages the entire purpose of language. A single universal language – Esperanto, say – is not evolutionarily efficient because that does not solve the problem of knowing with whom to cooperate, or whom to oppose. It does not solve the ‘we-group/they-group’ problem. Indeed, this would only be evolutionarily viable if there were no groups (only individuals), or more specifically, no group boundaries. In short, the evolution of mutually untranslatable languages is an early solution to the problem of ‘intellectual property’ – individuals outside the speech community have no access to knowledge that may be freely shared among colinguals.

We argue that this is an ongoing and evolving problem that cultural science can pick up where evolutionary anthropology leaves off, with the notion that there are new group-creating mechanisms (new languages; new dances) that enable the kin-selection mechanism to extend far beyond immediate kin into a much larger world. We ask: what happens at *very* large, effectively infinite scale of massive numbers of people – global populations – with equally mind-boggling scale of ‘big data’, information and communication?

This is the problem of scale. On the one hand, there are utopian ideals of universalism that gave us the *Rights of Man* (Paine 1792), Esperanto and endeavours to create global government (Mazower 2012), the ‘great big melting pot’ of multiculturalism, or the so-called Global Village (McLuhan 1962).

⁴ Apache dancing has nothing to do with the American Indian tribe of that name; it is the name of a spectacular ‘fight-dance’ craze that originated in Parisian youth/crime culture at the turn of the twentieth century. A notable example can be seen in the Crazy Gang movie of 1937, *O-kay for Sound* – a true expression of Malvoisine in dance! Accessible here: www.youtube.com/watch?v=8PDtdOTLYds. See also: www.streetswing.com/histmain/z3aposh.htm; www.jazzageclub.com/dancing/the-apache/

But then, on the other – the ‘dark side’ as it were – there is Malvoisine; intra-species or internecine and latterly global hostility, wars and terrorism, along with fractionations and balkanizations and the persistence of tribalisms and warring nation-states, and other xenophobic manifestations. There is a resistance to integration that seems deeply set in the human mind and consciousness, an atavistic instinct for *adversarialism* at least as strong as the enlightened progressive *universalism* of a global society.

The basic problem about scaling up, from an economics point of view, is that coordination and governance costs rise exponentially with the size of the group. Multiple factors feed into this, including the costs of information, transactions costs, the costs of monitoring and enforcement, along with the growing multiplicity of objectives and sources of conflict. This tends to put an upper boundary on the limits of hierarchic forms of organization that can only be overcome by breaking large organizations into modular units (Simon and March 1958). This same principle explains why large groups such as a nation are governed through smaller political units of states, province, cantons, city, borough, local council, and so on.

The exponential growth in complexity of coordination of increasing numbers of people yields a parallel problem in the growth of knowledge carried by each level. To the extent that growth in hierarchies can proceed through increasing scale, this invariably requires reduced complexity in knowledge carried by each element so that they are individually more predictable, manageable and governable. As the number of people in a group grows, and as the knowledge of that group grows, cooperation becomes increasingly expensive, and tends to break down at the point where the gains from it are no longer worth the costs of maintaining it. These costs are monotonic with size: as the number of agents rises, so does cost. Bigger is always more expensive, and at some point it becomes uneconomic – a group can be invaded at a cost that is not worth the fight. That determines how big a group can get.

We might expect to see groups – firms, for instance – get very large owing to the benefits gained from economies of scale and scope, and increasing returns from knowledge (Romer 1990). Yet economists have observed that it is the *market* that tends to get big, not firms, in which the price mechanism works as an institutional rule system for such large-scale coordination of economic activity (i.e. the economy is a spontaneous order, Hayek 1973; Potts 2013). The key insight therefore is that ‘big cooperation’ does not necessarily require big organizational groups (i.e. firms, most of which remain smallish). This is because the coordinating role is played by specific institutions, including the market mechanism, property rights, money and ‘rules of the game’ that do

effectively scale to a global level. The price mechanism and market institutions are an evolved scalable solution to the coordination problem. Friedrich Hayek (1973: 37) explains that much of society and culture is a spontaneous order, as opposed to designed or planned:

It would be no exaggeration to say that social theory begins with – and has an object only because of – the discovery that there exist orderly structures which are the product of the action of many men but are not the result of human design. In some fields this is now universally accepted. Although there was a time when men believed that even language and morals had been invented by some genius of the past, everybody recognizes now that they are the outcome of a process of evolution whose results nobody foresaw or designed.

For Hayek, culture evolved through group-selection mechanisms in which small groups developed modes of behaviour and acquired specific coordinating rules that enabled individuals within the group to cooperate effectively to gain knowledge and power over their environment in order to produce outcomes that ultimately outcompeted other groups. In Hayek's theory of cultural evolution the growth of 'cultural rules' is a consequence of groups outcompeting other groups, which then presumably are integrated into the now larger successful group. This underpins a theory of culture-as-institutions, but it does not yet furnish a theory of culture as group making. The problem remains: How does culture grow through ever larger groups? In evolutionary theory, the optimal size of a group adapts through selection working on a cost/benefit trade-off. A group should only ever get so big before the costs begin to outweigh the benefits, which is equivalently the problem of the limits to cooperation. The Hayekian solution elides this by arguing that institutions make groups, and that different institutions have different selection advantages that translate into differential group success. This explanation is elegant but incomplete. It lacks an account of the processes by which group formation occurs and of the processes by which the boundaries change and of what gets integrated and what is lost. For that, we need to consider the processes of cultural explosion or take-off to 'Big Culture'.

Big culture⁵

For Deirdre McCloskey (2010) the rise of modernity happened in a big 'whoosh' (her word), starting in the 1700s and continuing to this day. What is interesting about McCloskey – a Chicago-school economic historian – is that she attributes

⁵ We don't like the term 'Big Culture'; but it is less barbarous than 'bigification'. Is there a better term?

this explosive emergent growth (the ‘whoosh’) not to coal or steel, or factory systems, or any of the other much favoured explanations for the industrial revolution, but instead to a revolution *inspired by rhetoric* (persuasive talk and values), which she calls the rise of ‘bourgeois dignity’:

What made us modern, and rich, was a change in ideology, or ‘rhetoric’. First in little Holland and then in Britain a new dignity and liberty for the middle class freed innovation. A unique wave of gadgets, and then a tsunami, raised incomes from \$3 a day to \$30 a day and beyond. . . . The most important secular event since the domestication of plants and animals depended on more than routine. It arose from liberties . . . and above all from a resulting revaluation of bourgeois life. (McCloskey 2010)

These days we speak of globalization in several registers. Most obviously economic, as an increasingly interconnected world system of economic production and consumption, but also in relation to a range of global public goods and global problems that reach beyond nation-states such as peace, security, disease, environmental pollution, migration and human rights. We also speak of globalized culture (Tomlinson 1996; Cowen 2004; Pieterse 2003), and ‘world systems’ of knowledge (Lee 2010). Cultural anthropologists and sociologists tend to view this through a lens of hegemonic cultural homogenization (McDonalds and Starbucks being two favourite *bête noirs*). Economists view it as an outworking of specialization and trade, bringing a larger consumption set and driving a flourishing of niche cultural production. The broader question, however, is not the process but the cultural dimensions of how scale arises. This is something that neither economists nor cultural critics have adequately addressed. We seek to understand not the cultural-ethical *effects* of globalization (boo or yay) but the cultural-evolutionary *causal* mechanisms and processes of group formation and dynamics that underpin any process of exponential growth or ‘explosion’.

Such cultural ‘explosions’ are a theme of this book in such things as data (‘big data’, which is really about computational analytics), information storage (exobytes, yottabytes), digital cultural access and production (Google books, for instance), and cultural markets (e.g. Amazon). For McCloskey,⁶ this is the great ‘whoosh’ of the twentieth century, when most economic output measures doubled, doubled, and then doubled again. Choice over consumer

⁶ See McCloskey’s site hosting research and writings on this topic – *Prudentia*: www.deirdremccloskey.com/.

goods is a thousand times greater than that a century ago (Beinhocker 2006). That is not just linear growth; it is exponential, power-law, or hyperbolic take-off. The semiotician Yuri Lotman (2009) describes this cultural process as 'explosion'.

Non-linear expansion is the difference between 'mass culture' (growth in which homogenizing forces dominate, potentially reducing variety) and 'Big Culture' (an explosion of variety and possibility, increasing uncertainty) – a concept related to 'big data' that we capitalize to indicate that it refers to culture at scale, as arrived at following the economic 'whoosh' or take-off of modernity. These present very different challenges. Big Culture, like big data but unlike mass culture, is mostly a story about the need for new tools and new mind-sets to navigate, explore and exploit the new possibilities that lie within. There are new consumption opportunities and new production possibilities, all of which require an entrepreneurial approach.

There are several dimensions to Big Culture. The human population gets bigger: 3 billion persons at the start of the twentieth century to over 7 billion, heading for a predicted peak of 9 billion by mid-twenty-first century. Cities get bigger with more people living in dense urban conglomerates than ever before; we have more close neighbours than ever before. Data and information get bigger through new digital technologies of computation, communication and storage, and more of the world is accessible at very low cost. Media get big through globe-spanning networks and near universal access (especially via mobile devices), and so we know more about the world in real time than ever before. Trade and markets get bigger and we have more opportunities to consume and contract and produce than ever before. Politics and society get bigger as representation grows and more issues become interlinked through recognition of the extent of global public goods and of the means to address them (poverty, health, pollution, climate, security, and so on). Supranational jurisdictions, from the United Nations and European Union to World Trade Organization, World Intellectual Property Organization and the rest, get bigger in number, importance and scale. Knowledge enlarges as a conjunction of all the above forces and mechanisms working through a vastly expanded educated population that operates globally (using English as the unifying 'lingua franca') and commitment of resources to innovation. What is striking is the extent to which we have largely normalized these explosive changes. It is not true to say that 'everyone' lives in Big Culture, but certainly a growing majority of the species does: it is population-wide in the biological as well as in the biopolitical sense.

An example of this is the modern phenomenon of celebrity, which in our model is an 'explosion' in the number of links that connect certain individual people to others (Barabási 2002; Hartley 2012: 188). There have always been important people (in mass culture they are controllers of distribution), but celebrity is a different concept. Celebrity is explosion of the individual in cultural connectedness: it is created at the conflux of big attention (big media) and big rewards (big markets). We see it in sports, religion, finance, management and any domain that is shaped by the social network market dynamics of attention and information feedback (Potts et al. 2008).

The point to note is that celebrity – a Big Culture phenomenon – is also *group making* (turning Big Culture into *our* culture) through a totemization of a personified representation of the meaning of a 'we'-group. The role of celebrity is to anchor a group (known in Twitterese as 'followers') into present-tense meaningfulness or future-facing conditions, which may be why newly minted celebrities are ever younger in the most prominent international popular-culture systems (Hollywood; music; social media). The phenomenon (not each individual celebrity) is created by the group, for the group. The presidential style of democratic leadership contests (e.g. US presidential elections) or the celebrity CEO (Jack Welch, Steve Jobs) are other instances of this kind of group making around a celebrity figure.

How big can Big Culture get? Sociologists employ the concept of 'imagined communities' (Anderson 1991), of which the ideal type is the nation-state. Imagined communities are constituted in mediated rhetoric (previously newspapers and broadcasting; now online), and in turn constitute the pathways through which cultural explosion ripples. New-media theorist Clay Shirky (2008) explains the growth of ad hoc communities (or organizations) through lowered transactions costs associated with 'social tools'. Group formation here is a mechanism by which explosion advances (note: explosion, not growth processes) by an expanded domain of a group, or through the rapid creation of new groups, rather than by a kind of institutional expansion, or imperialism, through which a set of rules is imposed upon or adopted by a larger population. This is perhaps a subtle distinction in abstract, but it goes to the heart of cultural science: culture evolves through a group process of meaning making, and not simply as differential information replication or social learning – it's not a species of 'efficient distribution' but of group making.

Explosion is a cultural mechanism of this complex evolutionary process of the growth of groups and the meaning they carry. Explosion invariably runs up against the reciprocal problem of group conflict, which is really 'contested meanings' but can be manifested in much worse behaviour.

Malvoisine

At the Siege of Acre in the Holy Land in 1191, so the storytellers say, King Philip II of France used siege engines, trebuchets or catapults for throwing rocks, flaming missiles, plague-ridden bodies or the heads of slain enemies, into enemy forts or citadels (Figure 4.1). One ‘excellent’ such machine he named Malvoisine or ‘Bad Neighbour’ (*Malam Vicinam*). It seems that the Turks returned these favours with their own engine, named ‘*Mal Cousine*’ or ‘Bad Cousin’ (*Malam cognatam*):

The king of France . . . concentrated on constructing siege machines and placing trebuchets [petrariae] in suitable places. He arranged for these to shoot continually day and night. He had one excellent one which he called ‘Bad Neighbour’ [Malvoisine]. The Turks in the city had another which they called ‘Bad Relation’ [Mal Cousine] and often used to smash ‘Bad Neighbour’ with its violent shots. The king kept rebuilding it until its continual bombardment partly destroyed the main city wall and shattered the Cursed Tower.⁷

Malvoisine eventually prevailed, shattering the city’s ‘Cursed Tower’ (*Turrim Maledictam*). Later, in 1216, King Philip lent Malvoisine to his son, Prince Louis

Figure 4.1 A ‘Bad Neighbour’ in action. *Harper’s New Monthly Magazine*, 22–29 June 1869.⁸ *Monty Python and the Holy Grail* (1975) substituted a cow – and ‘French taunting’ – for the ‘Greek fire’ shown here.⁹ Creative Commons license.

⁷ Cited in Chevedden (2000): 97–8, from: *Itinerarium Peregrinorum et Gesta Regis Ricardi*, ed. Stubbs (1218–19), describing the Third Crusade (1189–92). See also *Wikipedia*: *Itinerarium Regis Ricardi*.

⁸ Source: ‘Engraving of thirteenth-century catapult for throwing Greek fire’. *Wikipedia*: Greek Fire Catapult (Harper’s Engraving).png (Creative Commons license).

⁹ *Monty Python and the Holy Grail* (1975): see: www.youtube.com/watch?v=9V7zbWNznbs.

of France, to batter Dover Castle, during the war between King John and the barons in England, after 'bad' King John had reneged on Magna Carta, signed under baronial duress at Runnymede in 1215. Like its many successors down to contemporary drones, robots and missiles, Malvoisine was a technological solution to a political problem. It didn't work, because Dover Castle was a 'new technology' itself, built to withstand such assaults.

Malvoisine – the doctrine of inter-demic contestation of meanings by assault – *names* a more general issue in cultural science. Considering that organized demes (tribes; states) can be armed with lethal weapons and use them to effect 'hostile takeovers' of competing groups, to the point where successful demes may enlarge, even to imperial scale, while defeated ones may disappear for ever, the question of violent destructiveness (or of cultural security, to put it another way) looms large.

If the adaptive function of culture is to ensure the survival of 'we'-groups in antagonistic competition with 'they'-groups, then two problems come into sharp focus when those groups confront one another, armed to the teeth, as they began to do 2 million years ago – before *H. sapiens* branched off from ancestral populations – with the emergence of projectile weapons among proto-human hominins (Gintis 2012: 6–7).

First, how can we explain group-on-group *violence*, destruction, and their institutionalized forms – warfare, oppression, coercion or even genocide of entire peoples by conquerors, rulers or neighbours – as part of *culture*, especially if we are reluctant to jettison the notion of culture as cooperation, creativity, and a civilizing influence? The second problem is more recent, resulting from Big Culture: when 'we' span the entire globe and the *entire species*, how can conflict be a fundamental component of 'demic' knowledge formation, where 'we'-groups grow their knowledge in competition with 'they'-groups, sometimes to the point of taking them over altogether (by demic diffusion, cultural transmission, accession, settlement, conquest, colonization)? In other words, how can demic knowledge remain adversarial when it becomes truly universal?

As to the first problem, Herbert Gintis (2012) has a definite view, as we described in Chapter 3: 'Demes': Projectile weapons, which could be used against large prey, were also good for killing rivals (2012: 6). Gintis conjectures therefore that coercive force had to give way to hegemonic persuasion. Counter-intuitively, in-group competitive violence produced the *communicative arts* of 'strong reciprocity' – persuasion, logic, analysis, politics, big brains, language – in

short, culture. According to Gintis, technologically equipped culture, founded on lethal weapons, did not lead to destruction but to the growth of knowledge, and knowledge became the means by which simian-like troupes of hominins evolved to modern *H. sapiens*.

Applying the same logic to inter-demic conflict, Gintis concludes his 'behavioral synthesis' of human evolution with a narrative that associates the development of different forms of state (from monarchical-aristocratic to democratic) with the industrial evolution of new lethal technologies (from scarce and expensive to common and cheap), until 'The true hegemony of the foot soldier, and hence the origins of modern democracy, began with the perfection of the hand gun' (2012: 9). This certainly reads as a peculiarly US-centric model of democracy, and says nothing about weapons of mass destruction or the 'MAD' ('Mutually Assured Destruction') brinkmanship politics of the Cold War era, but it does argue strongly that wars *produce* knowledge, culture, technology and political arrangements – they co-create humanity.

This point has been widely discussed by economic historians of technology, particularly with respect to World War II, from which emerged radar, modern computing, operational logistics, rocketry, new alloys, jet engines and nuclear energy, among many other technological breakthroughs, which in turn had large-scale political and cultural effects. Taken at population-level, rather than at the level of individual winners and losers, this point of view suggests that Malvoisine has been a force for evolutionary adaptation from the get-go, even though its scale and effects have become more spectacular in the period since knowledge began to grow exponentially (or faster) after the invention of metallurgy, writing, cities and states.

This leads us to the second problem mentioned earlier: namely how you deal with more, and with ever more – the problem of scale – having reached the point along that exponential curve in the growth of knowledge, arms and population, when 'we' have no one left to fight, because Big Culture spans the globe and the species; and how can you trust 'universal' knowledge that has not been tested in inter-demic contest?

The 'bad neighbour' problem is perhaps the fundamental problem in the study of the evolution of sociality and the main barrier to large-scale cooperative emergent social orders. In evolutionary social theory, this problem is otherwise known as the problem of *altruism*, or the free-rider problem, as a limit to ever greater or ever higher levels of *cooperation*. But this is about the instability of cooperation in a static world of individual behaviour. What we are concerned

with here is a variation on that, namely the greater incentive to *defection* with larger numbers (Olson 1965), organized as self-knowing groups. Game theory tells us that cooperation is only stable in small groups with complete information and monitoring. Beyond this scale, cooperation unravels as cooperative groups become increasingly valuable targets for invasion by uncooperative ‘defectors’. Further, evolutionary game theory establishes that cooperation in repeated games can be sustained through reputational mechanisms (Fehr and Fischbacher 2003). Cooperation is not predicted to survive to global-scale context. As we go up through larger aggregations of social groups, the problem of bad neighbours – whether through defection or conflict – becomes a larger and more complex issue.

Bad neighbours have different knowledge. That is why they are different groups. Equivalently, good neighbours have similar or relatable knowledge: their group is self-knowing and its knowledge is shared. That is how cooperation is possible; knowledge among members is interoperable. But different knowledge (‘out-knowledge’ as it were) is also *valuable*, in that it is a source of innovation and spur to adaptation for in-groups. But when different knowledge exists in external groups, it is not available in a way that can be easily accessed or used. Indeed, it is something that tends to be repelled, in the language of immunology, as a ‘foreign body’; and it may be strongly protected by the out-group who made it, who don’t want you to filch it. A major potential source of novelty and innovation is new ideas from other groups, but cultural groupishness makes them difficult to acquire. This problem – of hostility to external knowledge, but a wish to benefit from what it knows – is not xenophobia; that is an explanation after the fact. Rather, the cultural science account follows the chain of causation – the evolution of meaningfulness in a group.

Nor is this simply a political or even a military problem. In cultures with advanced divisions of labour and knowledge systems, it applies just as much to expertise and indeed to knowledge itself. Groups have boundaries and the limits to the growth of knowledge are the dynamics of those boundaries. A Humean world (where all knowledge grows through inductive inference), or a Popperian world (where the growth of knowledge proceeds through conjecture and refutation), all to eventually become common knowledge, is a quasi-fiction first debunked in the sociology of science. Latour (2005) argued that science was also a human cultural endeavour and, just like other social-mediated processes, could be analysed as a kind of ‘cultural text’. Science progresses as groups of scientists and their ideas are challenged and transformed. The so-called progress of science illustrates an externalized, demic principle that is consistent

with the Kuhn/Lakatos model of scientific paradigms and research programmes. In *The Structure of Scientific Revolutions* Thomas Kuhn (1962) famously challenged the prevailing model of scientific ‘progress by accumulation’ (a growth model) with his model of paradigm shifts, which is a non-linear model of ‘explosion.’ Although he didn’t use that terminology, this was in essence a model of scientists forming externalized demes, which rubbed up against competing groups but kept its internal knowledge insulated. In Imre Lakatos’s (2001) model, ‘hard core’ propositions are protected by a belt of ‘auxiliary hypotheses.’ A scientific revolution occurs when these auxiliary hypotheses no longer hold and the hard-core axioms are exposed to challenge, in effect, changing the boundary of a group. So the standard model of scientific progress is actually based about ‘we-group/they-group’ dynamics and continuous threats from ‘bad neighbours.’ The Kuhnian ‘paradigm shift’ is explosive, with rapid expansion and transformation of a whole field, and the neglect of the existing paradigm.

The bad neighbour model of novelty and innovation is natural. Knowledge grows as it is tested, and testing knowledge involves placing it under tension and stress, running it up against very different perspectives. Contested knowledge is not untrue knowledge; it is knowledge that is subjected to strengthening through challenge. This is the logic of open economies: anyone can enter a market and seek to compete, and no position is protected. It is also the logic of open societies (Popper 1945), with their necessary constitutional guarantees of free speech and free assembly, and the tolerance of difference that this requires. Tolerance, rather than boundary-policing, becomes the highest form of civic behaviour, precisely because it exposes a ‘we’-group to learning from ‘they’-groups, against the evolutionary grain.

Systemic violence

Hard-won tolerance in the name of an open society, open knowledge and openness to dynamic change, all mean that the well-tempered inquiring mind is brought up short at the warlike, destructive implications of explosive and contested change. The notion of ‘conquest as cooperation’ (see Chapter 9: ‘Extinction’) is repellent, or seen as a contradiction in terms. Another name for it is imperialism, where Europe led the way.¹⁰ Here, indeed, an important

¹⁰ According to Laycock (2012), only 22 out of nearly 200 countries recognized by the United Nations ‘were never invaded by the British’. *Daily Telegraph* (4 November 2012): ‘British have invaded nine out of ten countries – so look out Luxembourg’: www.telegraph.co.uk/history/9653497/British-have-invaded-nine-out-of-ten-countries-so-look-out-Luxembourg.html.

question about scaling up does need to be considered – the origin of violence. Competition, conflict, ‘creative destruction’ and conquest may result in the elimination of entire cities, peoples, and landscapes, and with them the loss of entire cultures, languages and knowledge. How can this be claimed as part of the process whereby cultures *grow* their knowledge?

Consider whether human violence is *natural*, or *cultural*; is it a product of behaviour or civilization? Do ‘contested meanings’ require that the ‘winner takes all’ and the loser loses everything? Does the cause of violence lie in human behaviour (‘hard-wired in the Pleistocene’, so to say); or is it better explained in the scaled-up complex systems that result from accelerated wealth, knowledge, technology and civilization? Some writers (Elias 1939; Pinker 2011) favour the first explanation; others (Benkler 2011; Gintis 2012) the latter. The answer has important implications for cultural science. If the former (natural behaviour of individuals), then scaling up makes little difference; there isn’t much that we can do about it, beyond strong security and policing to keep these naturally violent propensities in check, or (which is the same thing) by handing violence over to the state to exercise as a monopoly (in the form of war and punishment) in order to regulate its use in face-to-face communication and across society. The ‘civilising process’ (Elias 1939 and elsewhere) is seen as the slow defeat of that state of nature in which the ‘war of all against all’ renders life ‘solitary, poor, nasty, brutish, and short’ (Hobbes 1651: XIII.9). As Mark Twain had put it in 1897 (ch. 47):

The joy of killing! the joy of seeing killing done – these are traits of the human race at large. We white people are merely modified Thugs; Thugs fretting under the restraints of a not very thick skin of Civilization.

But if it is the latter (‘nurture’ or cultural systems), if violence is an *outcome* of scaling up the growth of knowledge and other assets, or (which is the same thing) if violence is *demic* and a property of adversarial cultural systems, not a behavioural property of individual humans, then it immediately becomes a specific problem for cultural science; with clear ‘policy’ implications – that invasive violence and ‘creative destruction’ need to be separated and demic boundaries maintained in dynamic contestation without recourse to violence. Such shifts, from ‘Mars’ to ‘Venus’,¹¹ war to trade, force to law, power to ‘soft power’, have been successfully effected in various domains, both geopolitical and social. It is states that need discipline, not competitive knowledge systems.

¹¹ See: www.presseurop.eu/en/content/article/1783481-mars-and-venus-10-years.

The trouble is that we persist in telling ourselves stories that naturalize person-to-person violence. So the origin of violence as a problem of knowledge needs to be understood across at least two dimensions: in the stories we tell ourselves as well as in fact. The *representation* of violence is important because it pervades our demic self-knowledge. We familiarize ourselves with stories that ascribe its cause to

- *Other groups* (adversarial ‘they’-groups) – for instance our own ‘bad neighbours’, both external ‘enemies’ to the nation and internal ‘threats’ to order and safety, or the two combined (‘the terrorist’);
- *Other times* – projected from the ‘here and now’ to the medieval past, or earlier;
- *Other cultures* – especially those seen as ‘barbarian’, ‘savage’ or ‘primitive’;
- *Fantasy worlds* – science fiction, where we/they contestation or postmodern relativism may be projected into the future and thought-through to logical but unpalatable conclusions (e.g. *Star Trek*’s ‘Omega Glory’ and *The Hunger Games* or many another dystopian vision of totalitarian-consumerism).¹²

All these ‘places’ (places in rhetoric and discourse) are routinely represented as inherently Hobbesian for all, except ‘our heroes’, who are vindicated by winning, usually after acts of extreme, extra-legal violence. ‘We’ don’t start it but, eventually provoked, ‘our’ hero fights it out, usually one-on-one (accompanied by explosions), until equilibrium is restored. Our stories require conflict and revel in violence, even child-on-child killing as in *The Hunger Games*, but it’s not our fault.

The second dimension is that hard-to-reach zone that, given the amount of story in our heads, we might call ‘not-story’, that is, reality. It turns out that the *behavioural* truth may be close to the opposite of what our *demic* stories tell us. According to sociologists Siniša Malešević and Kevin Ryan (2013), ‘recent research on the behaviour of individuals in violent situations shows that our species is neither good at nor comfortable with the use of violence.’ They point out that Norbert Elias’s influential model of ‘the Civilizing Process’

¹² See *Wikipedia*: The Omega Glory. This 1968 Roddenberry episode of *Star Trek* places the ‘Kohms’ (communists) and ‘Yangs’ (Yankees) on a planet where their mutual hostility eventually returns them to *Lord of the Flies*-style primitivism; a common trope of modernist sci-fi anxious about Vietnam and the Cold War. *The Hunger Games* exemplifies an equally common trope in a world without external enemies, where ‘we’ pay the price of pleasure, abundance and choice by forcing impossible choices on the 16-year-old heroine: survival versus humanity; life versus love; compliance (government) versus rebellion (freedom). Her choices are vindicated by winning (rather than knowing).

(1939), where a *longue durée* directional trajectory is said to have led humans from a natural state of barbarism and bloodlust towards a civilized stage of self-restraint and control, is based on the prior existence of barbarism and an inherent belligerence among humans. It turns out, however, that there is little evidence for that presumption, and plenty of evidence against it.

Malešević and Ryan argue that a distinction must be made between (psychological) aggression and (social) violence, where – it transpires – violence of the kind that characterizes advanced, modern societies is not a recapitulation of an earlier or more primitive stage of evolution, but a product of civilization itself:

In contrast to aggression . . . collective violence entails sophisticated coordination, organization, control and at least some degree of planning. In this sense aggressive behaviour is almost the exact opposite of organized violent action, as instead of acting on impulse, successful collective violence presupposes restraint. The goal-oriented use of physical force requires cool headedness, instrumental rationality and self-control. Hence rather than being stifled by the Civilising Process, complex forms of organized violence, such as warfare, revolutions and terrorism, are only possible with the development of civilization. (Malešević and Ryan 2013)

Malešević and Ryan point out that soldiers are spurred to action not by bloodlust but by what Australians call ‘mateship’:

. . . one’s platoon starts to resemble one’s close-knit family. . . . Hence it is not the joy of fighting that binds warriors together, it is an unprecedented and heightened sense of micro solidarity that stimulates this special feeling in individuals. The ‘joy of war’ is not the joy of killing and death but the joy of life and love. (Malešević and Ryan 2013)

‘Micro-solidarity’ (mateship) is a *demic* phenomenon, belonging to culture not behaviour, and it is this that motivates military *behaviour*, which is otherwise often characterized by an avoidance of killing. It follows that contemporary modernity and globalized civilization need to answer for violence, not humanity’s state of nature via some evolutionary throwback. As Malešević and Ryan conclude, ‘total war, the Holocaust, gas chambers, gulags, organized suicide bombings and the atomic annihilation of entire cities’ are only possible and only show up at the latest stage of civilization; they are not its negation but its completion. Malvoisine is not a medieval joke because the joke is on ‘us’: Malešević and Ryan point out that the Nazis’ genocidal killing squads were led by ‘highly educated

individuals: economists, solicitors, academics'; a third of their commanders had doctorates.

Violence produced modernity, and modernity uses violence, for the best imaginable reasons and purposes:

It is modernity's legacy of Enlightenment that fosters the grand and often mutually incompatible ideological blueprints for creating an ideal society, and it is modernity alone that can provide the efficient bureaucratic apparatus, the science and technology capable of implementing these grand vistas of a brave new world. . . . It is civilization, not the lack of it, that is at the heart of the organized and protracted mass slaughter of millions of human beings. (Malešević and Ryan 2013)

There's a case to answer: recruiting whole populations to the 'common substantive purpose' of a state, however benignly that purpose is imagined, be it for profit, salvation, progress or racial domination (Oakeshott (1975: 114, 319), is to recruit humanity to violence on a scale never before realized, no matter how much we fill our heads with visions of 'naturally' violent berserk premoderns and fantasy monsters. We are indeed our own worst enemies.

Does this mean that demic knowledge – Big Culture – is inherently violent and destructive, even if individuals are not; and that our universal-adversarial mode of group identification is inevitably corroding and destroying the very global unity that Big Culture has produced? We don't know; but the evidence – especially from the realms of politics, journalism and fiction (including games), if not science – is that the *representation* of demic knowledge cannot operate without an adversary, so once demes have expanded to global scale the pattern is to turn inward – to look for the 'enemy within' (if not foreigners then Communists, terrorists, paedophiles, etc.), or to externalize the threat beyond humanity (climate change, pandemics, aliens, etc.). But the reality may well be different. Violence ensues not from natural aggressiveness but 'sophisticated coordination, organization, control . . . planning, cool headedness, instrumental rationality and self-control', as Malešević and Ryan point out. Self-organizing complex groups like demes and cultures need to be cajoled, marshalled and deployed using central planning and direct coercion (e.g. conscription). In other words, competitive adversarial competition is cultural, but violence is not natural – it is imposed by something more like mass culture than Big Culture. The problem of Malvoisine is that contestation has been taken over by central planners and states. Self-organizing competitive systems may well manage to get along without it (see Chapter 5: 'Citizens').

What happens when culture gets really big?

In much cultural studies and cultural economy literature (Tomlinson 1996; Pieterse 2003), the prospect of globalized culture is seen as a threat of the loss or devaluation of small local culture (which is often taken to be its idealized size), under an onslaught of homogenizing mass cultural markets or hegemonic mass cultural production. Anti-globalization movements largely treat it as axiomatic that globalized culture is ‘a bad thing’. But globalized culture can mean many specific and complex things.

It is useful to frame this through the lens of globalized economic activity with respect to international trade. The economic case for the net welfare benefits of open trade is overwhelming and on solid footing: no serious economist disputes this (Clemens 2011: 85).¹³ But that does not mean that these welfare gains are obvious, or even intuitive. It takes careful thinking and counterfactual observation to appreciate the arguments from comparative advantage, say. It also requires that one can appreciate that the welfare gains come from specialization, and hinge on falling costs of transport and communication (a truism for most of the past 300 years), along with maintained citizenship in a global community.

But can the same arguments be made about cultural globalization? The economist Tyler Cowen (1998, 2004) elaborates a gains-from-trade argument that shows not only why consumers benefit from increased variety and better preference matching, but also how small local or niche cultural producers gain from the ability to reach into a larger market. However, the cultural science perspective on globalization is not an extension of the gains-from-trade model. It does not predict specialization on the producer side and increased real income and variety on the consumer side. Culture can be an exchangeable commodity and or capitalized ‘output’; the more salient point is that a globalized culture is less an argument about the quantity or quality of individual cultural consumption or production, but about its demic effect. Culture is productive of newness and knowledge and the globalization of culture can be immediately framed as a larger demic population and thus a broader social base for innovation.

A globalized culture has more demic frontiers of externalized knowledge populations: a greater number of ‘we-group/they-group’ boundaries. In a bigger, more globalized culture, Malvoisine will be a larger issue. Along with the standard-issue anti-globalization concerns that demand cultural protectionism

¹³ People can of course be against globalization in defence of their private interests as producers; the economic logic applies to aggregate welfare gains for all producers and all consumers.

(which we discuss in Chapter 9: 'Extinction'), it is common to frame this as an issue of multiculturalism. A number of modern parliamentary democracies (including Australia and Canada) have explicit multicultural policies intended to enable a multiplicity of cultures to occupy the same national space without favouring one group over others, and through endeavours to minimize conflict, often by minimizing contact or through social engineering to promote tolerance and criminalize antagonism. This contrasts with assimilationist or 'melting pot' approaches (the United States pre-World War II, for instance, or Italy, France and Germany in the nineteenth century), which seek to prioritize values of national citizenship above culturally ethnic, racial or regional loyalties (see Chapter 5: 'Citizens'). It is not unreasonable to frame the question of globalized culture as this same debate (multiculturalism vs. assimilation) carried to world scale (Pultar 2014).

Globalized culture clearly presents greater opportunity for conflict along wider frontiers of potential miscommunication, or outright clash of value systems. A defensive extension of nation-state models of multicultural tolerance (whether learned or enforced) or priority-shifting assimilationist blending may be the only path to cultural harmony and peace at the global scale. But this is not the path of cultural science. The problem with that approach is that it trades off against innovation, newness and indeed cultural renewal, all of which actively require the tensions of clashing and conflicted systems at the margin of demic knowledge. Both multicultural tolerance (by isolating and protecting difference) and assimilationist higher values (by de-valuing and blending difference) have the same dynamic consequence, in minimizing sources of newness, regeneration and evolutionary drive.

Innovation can come from investment of resources (inputs) into research and development. Yet that is not the only source; just the most controlled. Innovation and the discovery and creation of newness, as the precursor to the ongoing updating and adaptationist project of regeneration, also come from the outworking of tensions at the margins of systems, which is to say at the boundaries of 'we'-groups and 'they'-groups. This is something that becomes more powerful at scale. Discovery and regeneration is a process of shifting boundaries as ideas from a 'they'-group are made meaningful to a 'we'-group. When the Rolling Stones made the 'ideas' of rhythm and blues and soul music ('they'-group) meaningful to an audience that could understand rock and roll ('we'-group), this was regenerative innovation. Igor Stravinsky did a similar thing for folk music in *The Rite of Spring*, and Pablo Picasso for African and Oceanic tribal mask art in *Les Femmes d'Alger*.

Globalized culture presents powerful opportunities for cultural innovation and renewal. But at the same time it must be recognized that this will be largely unpredictable, mostly uncontrollable, full of surprise and waste, with many apparent near-field losses (that will invariably be noisily fought). Globalization is itself a mechanism of cultural renewal, although rarely through the central officially sanctioned and mainstream pathways. Instead, this unfolds as an emergent product of the messy margins and conflicted tensions of a self-organizing and evolving open global system.

Here is where the answer to the question of violence must be sought. It is state-sponsored enterprise that imposes a potentially lethal 'common substantive purpose' on citizens, not the self-organizing quest for 'newness under uncertainty' among citizens. Increasingly, the 'bad neighbour' turns out to be your own friendly authorities, whose mission to civilize, pacify and protect you results in tall stories backed up by 'security' forces armed to the teeth, not infrequently facing down their own citizens, who make up the majority of casualties in many contemporary wars. Thus, it is not civilization (if by that is meant self-organizing complex associations) that causes violence, but the appropriation of its technological and bureaucratic machinery by piratical states that has caused its exponential rise since the American Civil War (the first to experience machine guns).

The explosion of culture is perhaps the defining challenge of postmodernity. The problems of scale and growth are the real problems of cultural studies, and the central problems that cultural science seeks to address. These problems of rapid large-scale change (Lotman's 'explosion', McCloskey's 'whoosh') and their intersection with a context of globalization, which tends (rightly) to place them in the context of forces beyond individual or government control, also tends to lead many scholars, experts and leaders of thought and people to worry about these forces and outcomes. Cultural studies, in particular, tends to be pessimistic about the prospects of Big Culture. But cultural science isn't. Our point is that just because something is not easily managed and controlled does not necessarily make it bad and risky, or inherently violent. The nature of cultural production and renewal is perhaps much more like this than we have previously appreciated. By and large, we have been experiencing cultural globalization for a long time now (at least since the early modern 'age of exploration'), and it is a primary source of newness, innovation and cultural regeneration. It just doesn't look like that as it is happening, when it tends to feel more like conflict, tension and confusion. It is only after the event that its meaning becomes obvious, as changes in knowledge and group boundaries become apparent. Cultural science is the study of this process.