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The Diffusion of Christianity in the Third Century AD as a Case-Study in the Theory of Cultural Selection (1)

Introduction

THE EXTRAORDINARY expansion of Christianity from a marginal sectarian community precariously held together after the execution of its founder to the official religion of the Roman Empire has been variously reported and explained in a huge literature of which not even the most assiduous specialist can hope to master more than a fraction. This article, however, addresses only one aspect of one stage of Christianity's expansion after it was established within the Empire but before Constantine transformed its political environment. The fruits of Paul's missionary journeys and the transition from a movement most of whose adherents had been brought up as Jews to one in which most were converts from paganism are, therefore, taken as given. Thereafter, the explanandum becomes the ability of the Christian communities of the third century not only to sustain themselves as such but to attract further converts despite the indifference (at best) and persecution (at worst) of the authorities and the constant threat of backsliding, defection, and apostasy. Throughout this period, conversion continued to be a matter of cultural rather than social selection — that is to say, Christianization still came about not by "top-down" imposition from rulers to ruled but through the acquisition by one person from another through imitation

or learning of the beliefs and values constitutive of Christian self-identification. To account for a net growth in the number of Christians is, accordingly, to show how a distinctively Christian meme-set (i.e. bundle of exosomatically transmitted information affecting phenotype) could be successfully replicated and diffused despite intense and continuing competition from both traditional paganism and alternative cults and creeds.

What was distinctive about Christianity?

The number of Christians relative to the total population of the Roman Empire at the time of Constantine's conversion has been a matter of inspired guesswork ever since Gibbon's estimate of 5% — an estimate which has, unsurprisingly, been dismissed by some subsequent commentators as too low but by others as too high. But the argument of this article does not depend on arriving at the right answer. By the time that the Caesar Galerius had prodded Diocletian into publishing his edict of February 303, the Christians, as Diocletian's action sufficiently demonstrates, were a small group which had somehow succeeded during the course of the preceding century in becoming a big problem (Brown 1971, p. 65). It seems agreed by all the standard authorities that during the course of the third century there was a significant rise, unquantifiable as it is bound to be, in the absolute number of Christians. It is true that the definition of "Christian'' is itself debatable, not least because in times of persecution an unascertainable number of professed Christians reverted to outward conformity, at least, with the demands of the Roman state. But it is only to be expected that in that period Christianity should have been "porous and fluid at its periphery and diverse at its core'' (Hopkins 1998, p. 187). The question to be answered remains the same. How did the undisputed expansion come about?

The standard authorities also agree that Christianity was concentrated during this period in the cities rather than the countryside and in the East rather than the West. More controversial is the social composition of the movement. No present-day authority, so far as I can discover, maintains that Christianity was a Nietzschean *Sklavenausstand*, or even that it was primarily a religion of the poor and oppressed. But nor is it held that it was, as Weber (1956, I, p. 295) appears to have believed, a predominantly artisan religion of servile *Handwerker* saving up to buy their freedom. Pliny's famous letter (*Ep.* 9.96) written from Bithynia to

the emperor Trajan in the year 112 continues to be argued over. But there is no serious doubt about its authenticity (Sherwin-White 1966, p. 692), and no escaping Pliny's explicit surprise that the Christians should, as he reports, have been drawn from all ages, from all ranks of society, and from women as well as men *("omnis aetatis, omnis ordinis, utriusque sexus")*. That much-quoted remark is perfectly compatible with the view that Christianity made little headway either among the ruling classes or among the gang-slaves in their *ergastula*. Nor did it until later make headway in the Roman army. But that still left a large and diverse population of potential converts. Christian communities included the servile as well as the free, and there are known to have been at least some converts, both male and female, from among the elite. By the third century, the little house-churches where Christians had been used to assemble were being succeeded by buildings adapted or designed to be churches as such, complete with assembly rooms, classrooms, and dining rooms, and the Christian bishops were beginning to be recognized by the civic authorities as well as their pastoral flocks as being figures of local influence and standing.

Although there was, in the aftermath of Paul's extensive journeyings, no organized missionary endeavour of the kind later undertaken all over the European world — one recent authority goes so far as to call Christian expansion "essentially an incidental result of social interchange" (Schäferdiek 1991, p. 67) — the *pax Romana* had created the conditions under which travel of persons and therefore the memes of which they were the carriers from one part of the Empire to another was effectively unimpeded. Among a predominantly illiterate population, transmission of information was almost always by word of mouth. But nothing prevented it, whether "at street-corners or at places of employment or in the working quarters of dwellings" (MacMullen 1984, p. 40), or by networks of friends (2), or by the personal influence of a landowner or household head whose family, dependents, and slaves would all be expected to follow his (or sometimes her) lead. The pattern of growth will accordingly have been following the well-known logistic curve in which a slow start leads into a period of exponential increase which then falls off as the number of potential converts still available declines (3).

(2) Lane Fox (1986, p. 316) argues that "Above all, we should give weight to the presence and influence of friends" — a proposition endorsed by sociologists of present-day religion who find that intellectual adherence to the doctrines of a novel movement is likely to follow rather than precede conversion.

(3) See the pioneering application in relation to religious conversion by Bulliett (1979), who used name-change as the indicator of self-identification with Islam, and the subsequent use by Bagnall (1982) for the same purpose of Christian names in Roman Egypt. Bagnall estimates that the proportion of

By the year 200, it was enough that increasing numbers of Christians were bringing up their children as Christians and that the Christian communities were able both to hold together and continue to attract at least some further new members, however small a proportion they may have remained of the population of the Empire as a whole.

But what was it in the Christian meme-set which had appealed to them? To an observer of the mid-second century, Mithraism would have seemed much the stronger competitor with the alternatives on offer. The Christian religion was not the only one to hold out to its initiates the prospect of a life after death or to offer the comforts of mystery, ceremonial, and companionship in this one. Nor was it the only one to offer supernatural assistance in times of trouble: the Roman world was full of self-appointed seers, wonder-workers, oneiromancers, and mystagogues, and for them and their clienteles Jesus was just another magus (4). Nor was Christianity's repudiation of multiple or alternative divinities unique, since not only was Judaism monotheistic but among pagans too "educated provincials were coming to regard the Deity as one" (Frend 1984, p. 278). One recent authority is even prepared to say that "it is extremely difficult, if not impossible, to distinguish between the Christian position and the position of Plato, Aristotle, Zeno and their followers in late antiquity and thus the vast majority of philosophers in late antiquity" (Frede 1999, p. 41). The courage of the Christian martyrs is not to be discounted, even if the rhetoric of the Christian apologists is suspect and the Church itself was ambivalent about Christians who were too willing and eager for martyrdom: the persecutions may well have helped to attract and hold some Christians at the same time as frightening and discouraging others. But both Jews and pagans showed themselves ready on occasion to face death rather than desert their chosen creed and its adherents. If there was a single characteristic of the Christian religion which distinguished it from all its competitors, Judaism included, it was the willingness, at least in principle, of Christians not only to accept converts from wherever they came but to display, or at least be prepared to display, towards the unconverted the same kind of active benevolence that they were expected to display towards one another. This, like martyrdom, is a topic on which the literary sources

Christians rose very steeply between 313 and 353 — from 18% to 78% of the population — but his estimate for the pre-Constantinian period from 274 to 310 is of an impressive growth from 2.4% to 18% in a part of the Empire where Christianity had arrived relatively late.

(4) "The pagans who called Christ a magician knew what they were talking about and could confirm their accusation by drawing on Christ's biography: had he not, in his youth, spent some years in Egypt?" (Graf 1997, p. 91).

need to be treated with much caution: neither the sayings of Christ as handed down in the Gospels nor the injunctions to the faithful preserved in Paul's epistles nor the claims made by or on behalf of the Christian bishops are enough to license the conclusion that ordinary Christian converts practised much, let alone all, of what was preached to them. But Christianity encouraged unreciprocated altruism towards outsiders in a way that no other religion did, as the tenth chapter of Book 6 of Lactantius's *Divine Institutes*, written at the beginning of the 4th century, unequivocally brings out in a "searching (while rhetorical) comparison of Christian charity with pagan redistribution which is unrivalled in the literature of antiquity'' (Garnsey 2002, p. 173).

It is true that the idea of disinterested *benevolentia* or *humanitas* was not unknown to the pagan world, unusual as it might admittedly be (5). But in the Roman Empire, social relationships were overwhelmingly governed by large and manifest inequalities in economic, ideological, and political power underwritten by cultural norms whereby favours done were in return for favours received — the kind of "reciprocal altruism'', that is, which is not really altruism at all — and the obligations of clients to patrons were taken for granted. *Clientela* in a formal sense did not need to be involved. *Suffragium*, a word whose meaning had changed (De Ste. Croix 1954) from "vote'' under the Republic to "patronage'' under the Empire (including *venale suffragium*, i.e. purchase of favours), was pervasive. Beggars did not always go empty-handed (they would not have existed at all if that were so). But "Most gifts to the destitute must have come from non-elites'' (Parkin 2001, p. 129), since "Patrons looked for something in return from their clients, and beggars had nothing to offer'' (Garnsey and Humfress 2001, p. 127): the historian Ammianus Marcellinus (XXVII.3.6) has a memorable description of a pagan *urbis moderator* of Rome summoning a few paupers from the Vatican and lavishing money on them in a deliberate demonstration of disdain *("ut et liberalem se et multitudinis ostenderet contemptorem'')*. When Pliny (*Ep.* 9.30. 1-2) disapproves of giving for the sake of anticipated return, it is generosity to friends that he has explicitly in mind. Benefactions were made *ob honorem* to enhance the status of the benefactor, or to buy off the importunate (6), not out of Pauline *agapē*.

(5) "*In homine rarum humanitas bonum*'' (Seneca *Ep.* 115.3). Seneca's writings can be selectively mined to support his endorsement of the Stoic view that it is proper to offer help to the suffering; but the critical difference from Christianity is that the Christian is, but the Stoic is not, meant to be motivated by pity (see Cicero *Tusc. Disp.* 4.56). For Seneca, it is *clementia*, not *misericordia*, that is admirable.

(6) Like the loud-mouthed old man outside the temple in an epigram of Martial's (4.53) who is pretending to be a Cynic and gets given food by the passers-by whom he barks at *("cui dat latratos obvia turba cibos'')*. If Seneca *(de*

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The Roman state made regular hand-outs to certain of its citizens (and slave-owners sometimes manumitted their slaves simply to make them eligible). But even where provision was made for the maintenance of children up to the age of fifteen or sixteen on the model of Trajan's *alimenta*, the criterion for distribution was rank rather than need (7). De Ste. Croix, whose knowledge of the sources was as comprehensive as anyone's, finds only one case where a private distribution of food or money was graded other than by social rank, and that is a freedman giving more to other freedmen than to decurions (De Ste. Croix 1981, p. 579, n.35). Nor did any other agency ever provide orphanages, hospitals, almshouses, and homes for widows in the manner or on the scale that the Christian churches did. Indeed, as Veyne (1991, p. 33) remarks, there was not even a pre-existing vocabulary in either Latin or Greek appropriate for activities such as these. There were infirmaries *(valetudinaria)*, but they were not for the humble or poor; they were initially for the legionaries, and then by extension for members of the households of the rich or of the imperial court (Hands 1968, p. 141).

In the same way, although almsgiving was not unique to Christianity — it was, after all, a tradition taken over by Christianity directly from Judaism — the distributions by the churches were less closely restricted to fellow-adherents than the distributions from the synagogues. On charity in this sense, the testimony of Christianity's opponents is unequivocally convincing, most of all in the case of the Emperor Julian whose hostility to Christianity was implacable but whose letters testify to his recognition of the need for the pagan priests and high priests whom he created to match their Christian counterparts in benevolence to those in need, including prisoners as well as the poor (Jones 1964, p. 121; Dodds 1968, p. 138, n.1). Although the rich were the "prime almsgivers of the Early Church" (Countryman 1980, p. 114), Christian converts were not expected, let alone required, to give away all they had or to share their possessions in accordance with the primitive communism depicted in the *Acts of the Apostles*. Cyprian of Carthage was a very rare example of a convert who gave away his personal fortune, and there are in any case indications in the sources that he either kept some of it back or subsequently acquired other property of his own. Although deacons, both male and female (*Romans* 16.1; Pliny *Ep.* 10.96.8), had

Clem. 2.5.1) is to be trusted, women (he used the diminutive *mulierculae*) may have been more disposed to be charitable than men.

(7) Woolf (1990, p. 227) concludes that "Poverty undoubtedly existed in Trajan's Italy, but the imperial alimentary schemes were not a response to it. They did not constitute the one exception to the rule that the Roman world had little compassion for the poor and that no ancient government ever regarded them as their responsibility".

always had special duties and were expected to live up to special standards of conduct, most Christians went on leading their normal lives in their normal roles, and the established social order, slavery included, was taken for granted. But membership of a Christian community involved more than participation in communal rituals and mutual assistance in difficult times. However little of their time or money self-styled Christians in fact devoted to being "good Samaritans", among the norms to which they were at any rate subscribers in principle was one which explicitly contradicted what might be called Sahlins's Rule — unconditional altruism within the family, reciprocal altruism within the wider in-group, and "negative reciprocity" towards out-groups (Sahlins 1972, Ch.5). To the Christians, all "others" were at least potentially one of "us" in a way that was never true of Judaism either then or when, many centuries later, the carriers of Weber's "Protestant Ethic" adopted a distinctive strategy of fair dealing towards out-groups as well as among themselves (Swedberg 1998, p. 142; MacDonald 1993, p. x).

It might be argued, in theory at least, that Christian converts were persuaded that by giving money to the needy they were buying a place in heaven. Clement of Alexandria, in a rhetorical exhortation to a hypothetical rich man (*The Rich Man's Salvation* 32) explicitly proposes it as a cost-benefit calculation: "what a beautiful deal" *(ō kalēs emporias)* to buy eternal incorruption with perishable cash! But there is no contemporary evidence (so far as I am aware) which would authenticate this as the motive for actual conversions. Quite apart from the lack of corroboration of the pay-off purporting to come from beyond the grave, to take Cyprian's injunction literally would rob the Christian notion of *agapē* of any implication of virtue and the Christian notion of pity of its meaning. Indeed, it would take both of them back down to the level of the *do ut des* of pagan sacrifices, or (at best) to an insurance policy of a strictly prudential kind.

If, accordingly, it is accepted that Christianity was unique in its advocacy of authentically disinterested altruism, its expansion is of exceptional sociological interest not merely for its own sake but as providing a quasi-experimental contrast directly relevant to the long-standing problem in evolutionary theory of how altruism can extend beyond what can be explained by either inclusive reproductive fitness in accordance with Hamilton's Rule or the expectation of future favours to be received in return. In the by now extensive social-psychological and game-theoretic literature, plausible models have been developed, supported by both experimental evidence and computer simulation, which

suggest how cooperation between unrelated strangers might catch on to the point of resisting invasion by defectors and avoiding equilibrium traps from which escape to a mutually beneficial solution is precluded. But is it possible that the 3rd century expansion of Christianity within the Roman Empire offers a historically unique example of an authentically altruistic strategy which in that environment did in fact hold its own over an extended period in competition with free-riding?

How could unconditional benevolence be culturally fit and hence selected?

For this to be possible, let alone probable, two conditions had to be fulfilled. The Christian communities had to be altruistic in the sense not only that their members were prepared at some times and in some circumstances to be unconditionally benevolent towards strangers but also that they were "strong reciprocators" (Gintis 2000) — that is, willing to punish at a cost to themselves not only fellow-Christians seen not to conform to Christian norms of benevolence but also those unwilling to punish the non-benevolent. In both cases, the cultural fitness of the strategy is independent of the traits of its individual carrier: the competition for reproductive success is between strategies as such (Skyrms 1996, p. 10). But if the net cost of punishing is low, the cost of being punished high, and the prospect of exit to a different community unrewarding, then punishment can stabilize a behaviour-pattern whatever the personal dispositions and preferences involved (Boyd and Richerson 1992). A strategy of unconditional benevolence is, to be sure, inherently paradoxical if followed literally. Not only do "total" altruists have to prefer losing to winning, but the injunction to forgive sinners precludes the possibility of punishing free-riders at all. If the Christian communities had seriously adopted as their strategy the precepts of the Sermon on the Mount, it would quickly have been driven to extinction by the invasion of free-riders, self-aggrandizers (which some Christian bishops very evidently were), and cheats. But in cultural, as in both biological and social evolution, a small difference to which there attaches only a modest selective advantage can be enough to generate large-scale change. It was necessary only that Christian parents should bring up their children to be, on average, more likely, at least marginally, to act benevolently towards strangers than the population as a whole.

From its beginnings, Christianity had been "exclusive and totalistic in a way that no club nor even any pagan cultic association was" (Meeks

1993, p. 78). Once initiated through the rite of baptism, converts joined local groups in which the obligations imposed on them, at seemingly unproductive cost, functioned both to screen out free-riders and to reinforce their levels of participation (Iannacone 1992). The "strict churches are strong churches'' effect (Iannacone 1994) holds good whatever the particular cultural markers, theological doctrines, or prescriptive rituals which distinguish one church from another. Although the experimental literature on cooperation between strangers is largely, although not entirely (Henrich *et al.* 2001), restricted to educated subjects socialized into the norms of modern so-called "Western'' culture, the sceptics can fairly be required to come forward with evidence of their own to show that there is not a deep-seated human disposition and capacity to detect and punish free-riders and cheats who are held to have violated a social contract (Fehr and Gächter 2000). Willingness to detect and punish is not enough in large and fluid communities where the behaviour of strangers is difficult to monitor and downward spirals of defection are easy to start (Macy 1991, p. 836-837). But in the close-knit, self-consciously distinctive Christian cult-groups and communities of the 3rd century, with their shared meals, frequent interpersonal contacts, and well-established norms of mutual aid, detection of free-riders was easy and their punishment cheap. These were precisely the kind of small communities characterized by high levels of embeddedness of social interaction that computer simulation using a genetic algorithm shows to generate strong local cooperation which can then be diffused through weak ties to strangers (Macy and Skvoretz 1998). The danger to their coherence came not from defection, but from schism. Mutual denunciations are amply documented, and the intolerance of one Christian sect for another, to the point of willingness to take disagreements beyond denunciation to assassination, came to attract ready comment from pagan observers (e.g. Ammianus Marcellinus XXII.5.4, XXVII.3.12; see Brown 1992, p. 90). But sectarian disagreement reinforced rather than undermined the solidarity of whatever particular Christian cult-group the particular convert had been persuaded to join. From the perspective of the ecclesiastical authorities, doctrinal variation and consequential antagonism between fellow-Christians was a perennial threat which they sought to counter as best they might. But from the perspective of these cult-groups themselves, sectarian disagreement both limited participation in competing activities and reinforced within-group conformity.

The problem for selectionist theory posed by a distinctive strategy of unconditional benevolence is not, therefore, that Christians who fol-

lowed it were not accorded "copier deference" (Henrich and Gil-White 2001) by their fellow-Christians or that those who refused to follow it could escape from "altruistic punishment" (Boyd *et al.* 2003). The problem is the vulnerability of any group which follows such a strategy to consistent exploitation by free-riders who have no need to convert, or appear to convert, in order to gain from it. Difficult as it may be for those deficient in moral sentiments to fake them (Frank 1988), free-riders did not even need to mimic the signals by which committed Christians recognized one another as such. Any rationally self-interested pagan could take immediate advantage of Christian benevolence without offering any prospective benefit in return. However limited in practice the scale of such benefits, all unreciprocated benevolence will have represented a net cost to the Christian communities whose resources were diminished thereby. No doubt most of the actual cash at the bishops' disposal went to supporting the Christian communities themselves, like the one in Rome which, according to Eusebius (*Eccl. Hist.* 6,43,11), looked after 1,500 needy persons in addition to providing maintenance for its own body of officials out of church funds. But once they were willing to care for strangers from whom they gained nothing in return, they will have been exposed to exploitation by pagans who took whatever help was on offer and then moved on (8).

There was, however, one aspect of Christian benevolence towards strangers which had a unique potential to accelerate the number of conversions. Christians were enjoined not only to feed the hungry, clothe the naked, and shelter the homeless but to nurse the sick; and in the period between Marcus Aurelius and Diocletian this frequently involved not merely the normal ailments to which the populations of the towns and cities of the Empire were chronically vulnerable but successive outbreaks of what is customarily referred to as "plague". It may in fact have been acute bacillary dysentery rather than "Black Death", but the effect was much the same. Its importance in this connection has already been strongly argued by Rodney Stark (1997, Ch.4). But the discussion which follows departs from Stark's approach in one fundamental respect: it eschews any attempt at the kind of law-like cross-cultural generalizations advanced by Stark in favour of a selectionist analysis explicitly focused on the particular historical environment. This implies no doubt about the existence of universal psychological capacities and dispositions which underlie all religious movements, just as the willingness to punish violators of presumptive social contracts even at a cost to the

(8) As explicitly envisaged by Lucian *(Peri tēs Peregrinou Teleutēs 13)* in the suggestion that any clever charlatan *(goēs)* can get rich at the expense of gullible Christians.

punisher reflects a universally evolved human emotion (Price, Cosmides and Tooby 2002). But conversion to Christianity in Antioch or Ephesus or Edessa in the 260s can be assimilated to conversion everywhere else, including conversion to Mormonism in California in the 1960s as analyzed by Stark, only at a level which embraces any plausible hypothesis as readily as its rivals. If "the central sociological proposition about conversion is this: *Conversion to new, deviant religious groups occurs when, other things being equal, people have or develop stronger attachments to members of the group than they have to nonmembers*'' (Stark 1997, p. 18), it is a proposition equally consistent with any just-so story which links one rather than another feature of the particular environment to one rather than another characteristic of the new, deviant group. Stark's neglect of one feature in particular of the cultural environment within which the distinctive Christian strategy of unconditional benevolence was replicated and diffused leads him to underestimate, if anything, the strength of the link between conversion and plague.

Stark's argument is based on the estimate of present-day epidemiologists that in epidemics of the kind that, so far as we can tell, these were, rudimentary care — a little food, a blanket, water, and the constant presence of a willing nurse — can reduce the mortality rate by as much as two thirds. We have no way of knowing how many Christians did in fact nurse pagans as well as fellow-Christians. The highly rhetorical descriptions preserved in the pages of Eusebius (*Eccl. Hist.* 7.22.7,10) of pagans *(ta ethnē)* leaving their nearest and dearest *(tous philtatous)* to die in the streets while Christians nursed the sick heedless of the risk to themselves *(aphylaktēs)* cannot be taken at face value in the way that Stark seems prepared to do. But we need only accept that Christians were more likely than pagans to nurse the sick, and that they nursed at least some pagans even if they gave preference to Christians, for it to be safe to conclude that significant numbers of pagans will have seen both that Christians were prepared to nurse pagans and that a significant proportion of those nursed were cured. The epidemic of the year 165 was succeeded by another, which Stark omits to mention, in 189 which according to Dio Cassius (LXII.14.3-4) killed 2,000 people in a single day in Rome, and then another major one in 250. Successive generations of pagan survivors, however small a proportion they constituted of the pagan population as a whole, will therefore have been likely, from the late 2nd century onwards, to form at least some social attachments with Christians in the way that Stark sets out, and they will also, and no less importantly, have been likely to transmit to their families and friends their recollections of their experience. Stark quotes with approval

William H. McNeill's remark (1976, p. 108) that Christianity was "a system of thought and feeling thoroughly adapted to a time of troubles in which hardship, disease, and violent death commonly prevailed". But perhaps more to the point is Ramsay MacMullen's remark (1981, p. 96) about the importance of proof of efficacy "before men's eyes". Free-riding pagans who had been restored to health might take up their old way of life with no more thought than if they appeared to themselves to have been cured in recognition of their diligent sacrifices to their traditional deities. But if the two-thirds figure is even approximately correct, and if there was nothing in pagan religion to motivate pagans to nurse the sick as Christians were enjoined to do, and sometimes did, the persuasiveness of Christianity to the cured becomes virtually self-evident.

It is here that the cultural environment of the Greco-Roman world tells more in Stark's favour than he seems aware. Unlike the 20th century American world in which Stark and his colleagues studied at first hand the rate and process of conversions to Mormonism, it was a world in which no clear distinction between the sacred and the secular could be drawn. There is, admittedly, no way of establishing what exactly the educated, let alone the uneducated, did or did not believe about unseen agencies, whether natural, supernatural, or somewhere between the two. Cicero (*de Natura Deorum* I.ii.5), from whom much of our information about the religion of the Roman Republic is derived, himself says that there is no subject about which there is more disagreement among *docti* and *indocti* alike, and his own beliefs are impossible to infer from his writings. But it is unmistakably evident from the sources which survive that those who considered such things at all were ready to be convinced that much of what happens in the world is under the influence of non-human powers which, although not directly discernible, are discernible through their visible effects. The general thought is as explicit in Marcus Aurelius (*Meditations* XII.28) as in St Paul (*Romans* 1.20), and the range of such powers can be seen not merely in prayers, dedications, and sacrifices but in prescriptions for the treatment of illness, planting of crops, and forecasting the weather, in recourse to incubation, haruspication and necromancy, in the use of herbs, philtres and amulets, and, more strikingly still, in the spells and curse-tablets *(defixiones)* by which the aid of unseen beings from a nether, or occasionally higher, realm (Versnel 1991) was invoked in pursuit of sexual success, or the defeat of a professional rival, or the silencing of a hostile witness in the law-courts. No doubt there was much ambivalence and uncertainty in all this, rather as Mary Douglas (1966, pp. 58, 68), referring

to !Kung Bushmen, reports them at one moment as ridiculing the notion that their rain rituals actually cause rain but says of the Dinka that, "of course", they hope that their rituals do just that. The elder Pliny, for example, in his rambling, voluminous *Natural History*, at one point (XXX.1) dismisses magic as "the most fraudulent of arts" but at another (XXVIII.4) makes it clear that he believes that *defixiones* actually worked. But the underlying concern is always to link causes with effects, and the willingness to believe that an unseen agency is somehow or other at work, and to act on that belief, is not to be dismissed as merely "expressive" or "performative" as opposed to "instrumental". Of course some rituals, in the Greco-Roman world as elsewhere, were purely expressive, whether celebrating a victory, or commemorating a past event, or grieving over the dead, or proclaiming familial or civic pride (9). But claims to knowledge of how the unseen agencies at work in the world could be anticipated, diverted, enlisted, manipulated, or reciprocally influenced by human action could count on a willing hearing. Ideas suspected of subverting the authority of the state were always likely to invite proscription, as in the actions periodically taken against astrologers. But otherwise, it was an open intellectual market in which rival explanations in terms of different unseen agencies competed on level terms for a place in the minds of men and women to whom "our" distinctions, whether Durkheimian or Frazerian (10), between "magic", "science", and "religion" were totally alien. They had distinctions of their own which could on occasion be matters of life or death: to be charged with "magic", whether the alleged means were poison, imprecation, or the invocation of demonic assistants *(parhedroi)*, could be as fatal as a charge of "witchcraft" in a later epoch of European history. But it was only, and precisely, because of a general belief in the possible efficacy of activities thus categorized that the charge was such a serious one.

   The importance of "miracles" in the early history of Christianity is another topic which has generated much inconclusive debate. But however dismissive it is appropriate to be about the stock motifs of the hagiographers with their automatic attribution to their protagonists of the power to free the imprisoned, calm the winds, strike the ungodly

(9) Nor is it as if "they" were incapable of grasping the distinction. When Lucian (*Peri Penthous* 10) makes fun of people who put an obol in the mouth of a member of their household who has died in order to pay the ferryman (what country's coinage do they think is legal tender in the underworld?), the joke depends precisely on treating an expressive ritual as if it was an instrumental one.

(10) Or "neo-Durkheimian" or "neo-Frazerian" — terms which can be as readily applied to the positions taken by different authors today as when summarized in this journal in Runciman (1969, pp. 152-153).

with lightning, drive off beasts of prey or swarms of insects, and even raise the dead, it was as true of the 3rd century Roman Empire as of early medieval Europe that it was, in the words of Ronald Fletcher (1997, pp. 10-11), "a world in which persons at every level of intellectual cultivation accepted without question that the miraculous could weave like a shuttle in and out of everyday reality". There was nothing peculiarly Christian about this. For example, the travel writer Pausanias, although he is quite hard-headed enough to refuse to believe that Odysseus ever dedicated a bronze statue, since the technique was unknown at the time that Odysseus is alleged to have done so, unquestioningly accepts the historicity of the Trojan War and the part played in it by gods as well as heroes. Similarly, the unmistakably hard-headed Cato, in his treatise *On Agriculture*, sandwiches in between a paragraph about keeping a little bunch of wormwood under your anus to prevent soreness on a journey and a paragraph about how to plant asparagus as a cure for a dislocated limb which involves the chanting of a meaningless-seeming abracadabra-type formula which has understandably baffled generations of Latinists. There was no lack of sceptics ready to question the validity of causal connections too easily presumed, just as there was no lack of mountebanks ready to exploit the willingness of a credulous public to presume them. But if pagan survivors of plague could see for themselves that nursing by Christians had made their chances of survival very much higher, this could not but give the Christian meme-set an advantage in competition with both the traditional religion of the Roman state and the newer cults and creeds which, alongside Christianity, were on offer from Greece, Egypt, Mesopotamia, or Iran.

This is not to claim that nursing by Christians of the victims of plague was by itself the decisive cause of whatever was the net 3rd century expansion in the number of Christians in the Empire. Conversions will have continued, for whatever individual reasons and through whatever social contacts, as they had done from the beginning, even if not at the 40% per decade which Stark proposes by analogy with Mormonism in the United States. But the nursing of the sick will have significantly steepened the slope of the logistic curve. In cultural, as in natural selection, it is the combination of the pressure of the environment on the phenotypic effects of the units of selection with the reciprocal pressures exerted by the units of selection on each other which gives significant advantage to those which come to displace their competitors. There was no single meme "for" Christian self-identification, any more than there is a single gene "for" the capacity for empathetic identification with the suffering of other people which distinguishes human beings from other

species (Hoffman 1981). There was, however, a distinctively Christian complex of exosomatically inherited information affecting phenotype which was replicated and diffused across the towns and cities of the Eastern Empire, and it included what might, in a parody of Weber's borrowing of the notion of "elective affinity'' from Goethe, be called a "selective affinity'' between a strategy of strong reciprocity within the community and a strategy of unconditional benevolence outside it. It does not matter that "memes'' cannot be physically defined and specifically located within the carrying organism in the way that "genes'' can. The essential underlying idea is that in evolutionary cultural theory, it can stand, just as can "gene'' in evolutionary biological theory, for any information passed from person to person for which there is, in the given environment, positive or negative selective bias significantly greater than its rate of endogenous change (11). It is true that some evolutionary game theorists treat strategies as themselves the units of selection while others treat them as extended phenotypic effects of motivational dispositions located in one or another part of the brain. In either case, however, it is the competitive advantage to the unit of selection as opposed to its carrier which is decisive. If the courage of Christians who nursed the sick heedless of risk to themselves resulted for some of them in their own premature deaths, that is less important for the replication and diffusion of the strategy than the response which their behaviour produced in the minds of those who observed it; and if some, at least, of the would-be free-riders who came to scoff remained to pray, the transmission to them of the joint strategies of strong reciprocity and unconditional benevolence will have produced a net increase in their frequency among the population of potential converts.

Nor is the argument affected by the question whether cultural, unlike natural, selection is more often effective at the level of the group as opposed to the individual. To the extent that it is not a purely semantic issue, the answer is that Christianity was favoured to some degree at both. Individual Christians who exemplified Christian norms will have been imitated both directly and by "indirect bias'' (Boyd and Richerson 1985, Ch. 8). But at the same time, Christian communities were characterized by collective traits, including both social cohesion and ideological unanimity, which are not logically predicable of individuals. In the competition with other sectarian cult-groups within the same envi-

(11) This formulation is borrowed directly from Williams (1966, p. 25). The no less important ancillary idea that in cultural selection "The survival value of a cultural instruction is the same as its function; it is its value for the survival /replication of itself or its replica (s)'' was made by Cloak (1975, p. 72) in the year before Richard Dawkins coined the term "meme''.

ronment, Christian memes were thereby helped to displace their rivals, whether because the other groups were more likely to dissolve altogether or because the other groups were more likely to be invaded by Christian memes than the other way round. The lack of any reliable quantitative data means that there is no point in trying to apply sophisticated models borrowed from either evolutionary game theory or population genetics to conjectural estimates of growth. But the net increase in Christian numbers on which the authorities agree has to be explained somehow, and the joint and separate effects of the strategies of strong reciprocity and limited but highly visible benevolence directed both within and outside the Christian communities provide a hypothesis which is entirely consistent with the evidence we have. Not only is it grounded in an increasingly well-developed neo-Darwinian theory of cultural selection, but it has no need of either sociological or psychological presuppositions to the effect that Christianity during this period can only have grown by appealing uniquely strongly to a particular class or status-group or to individuals of a particular personality type. The potential converts may, until the 4th century, have been largely urban, and largely of intermediate social status. But they were not exclusively so. The Christians of the 3rd century Roman Empire — men and women, rich and poor, slave and free — were much like anyone else. It was the distinctive but connected strategies of strong reciprocity and unconditional benevolence of which they were the carriers that made Christianity into a movement which, by the second half of the third century, the Roman state could neither ignore nor suppress.

Conclusion

This article contributes nothing to the explanation of the subsequent "triumph" of Christianity as one of the major religions of the world. Its continuing diffusion during the century preceding Constantine's conversion was no doubt a necessary condition, but it was emphatically not a sufficient one. When, for reasons of an altogether different kind, Christianity had become the official religion of the Roman state and, as MacMullen (1984, p. 101) puts it, "non-Christians were outlaws at last", its throngs of new adherents ranged from blatantly self-seeking careerists on the one side to fanatical anti-authoritarian ascetics on the other, and both of these were responding in their different ways to the fact that the Christian life had come by then, as Nietzsche famously said,

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to represent everything against which its founder had preached. Christianity as expounded and practised between the persecutions of Decius and of Diocletian could well have persisted indefinitely as merely one among other cults competing for followers under a regime in which "there was no basic objection to conversion: all that was required was acceptance of the consequences of one's own conversion" (Momigliano 1992, p. 696). But however well adapted the Christian message is to its environment, cultural selection alone would never have carried it to ideological domination across the whole population of the territory over which Diocletian and his successors held sway.

On the other hand, this article does, if its argument is at all well-founded, offer a cogent illustration of the maxim that at the outset of any sociological enquiry it is as well to begin by treating all beliefs as rational, but no actions (Runciman 1983, p. 24). The converts to Christianity had reasons for believing what they came to believe which were good enough for them and were in no way at odds with the epistemological conventions and standards of their time: *credo quia impossibile* was a rhetorical trope for disputations among the learned, not a slogan for the man or woman in the streets of Antioch or Ephesus or Edessa. But the norm of unconditional benevolence to which they at least nominally subscribed can be kept within the scope of rational choice theory only at the price of widening the definition of a utility function to cover behaviour which categorically conflicts with the presupposition of the pursuit of self-interest as normally understood — unless, that is, we are seriously to suppose that Christian converts were all Bayesian decision-theorists recalculating the probability of being sufficiently rewarded in the next world to outweigh the costs of practising ostensibly disinterested benevolence in this one.

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