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Recruitment to Elective Cults: Network Structure and Ecology

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During the first and second centuries of the Common Era the Christ cult spread from rural Palestine to the large cities of the Empire. This article draws insights from social network theory and from epidemiology, arguing that the Christ cult was not a simple contagion, spread by simple contact, but a 'complex contagion' that required persuasion, especially because adherence to the Christ cult entailed potential social costs and demanded high signalling costs.

Keywords: social networks, 1 Corinthians, 1 Thessalonians, Paul, epidemiology, diffusion of elective cults, costly signalling

1. Introduction

The second volume of Adolf von Harnack's masterful *Die Mission und Ausbreitung des Christentums in den ersten drei Jahrhunderten* began by documenting the spread of Christianity from the first century to the time of Eusebius.[1] The catalogue he offered ranges from declarations, some as early as the first and second centuries, to the effect that the gospel had been heard ἐν παντὶ τόπῳ (e.g. 1 Thess 1.8) to admissions by the likes of Origen that the diffusion of the Christ cult was still limited geographically.[2] Harnack was undoubtedly correct to regard many of the former as rhetorical exaggerations and aspirational more than descriptive.[3] Even Pliny's claim at the beginning of the second century

1 A. von Harnack, *Die Mission und Ausbreitung des Christentums in den ersten drei Jahrhunderten*, vol. II (Leipzig: J. C. Hinrich, 1906[2]) 1–16, Eng. trans.: *The Mission and Expansion of Christianity in the First Three Centuries*, vol. II (London: Williams and Norgate/New York: G. P. Putman's Sons, 1908[2], rev. and enlarged edn) 1–22.

2 Origen, *Comm. ser. Matt.* 39 on Matt 24.9: *multi enim non solum barbararum, sed etiam nostrarum gentium usque hunc non audierunt Christianitatis verbum.*

3 Harnack, *Mission and Expansion*, II.23: 'They tell us hardly anything about [Christianity's] actual spread, though they certainly bear witness to its energetic character and to the fact that the gospel had already reached barbarians, Greeks and Latins.'

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that Christians in Bithynia were many and were to be found in all ages, all ranks and among both women and men, in the countryside as well as the cities, is not without a good deal of hyperbole.[4] By the Severan period there is more credible evidence of a wider diffusion of the cult of Christ, both geographically and socially, and by the mid-third century some areas of Phrygia seem to have been substantially Christianised. There is even evidence of a handful of Christians of senatorial rank[5] and others of the bouletic classes.[6] Yet by most estimates, only 7–10 per cent of the population was Christian by the eve of the Edict of Toleration.

Since Harnack's day much work has been done to nuance his results by drawing on more recent epigraphical and archaeological data[7] including detailed local studies,[8] and now culminating in the Berlin TOPOI project, which will offer detailed regional surveys of sites in Asia and Macedonia.[9] This 'New Harnack' will offer a breathtaking narrative of the diffusion of Christianity, both historically and geographically, running parallel to endeavours to map the mobility of various

4 Pliny, *Ep.* 10.96.9: *multi enim omnis aetatis, omnis ordinis, utriusque sexus etiam vocantur in periculum et vocabuntur. neque civitates tantum, sed vicos etiam atque agros superstitionis istius contagio pervagata est* ('For there are many of all ages, all ranks, and even of both sexes who are or will be summoned to justice. The infection of this superstition has penetrated not only the cities, but the villages and the countryside as well'). On this, see K. Hopkins, 'Christian Number and Its Implications', *JECS* 6 (1998) 185–226.

5 W. Eck, 'Das Eindringen des Christentums in den Senatorenstand bis zu Konstantin d. Gr', *Chiron* 1 (1971) 381–406; T. D. Barnes, 'Statistics and the Conversion of the Roman Aristocracy', *JRS* 85 (1995) 135–47; A. Weiß, *Soziale Elite und Christentum: Studien zu ordo-Angehörigen unter den frühen Christen* (Millennium-Studien / Millennium Studies 52; Berlin/New York: de Gruyter, 2015) 189–200.

6 See P. Mckechnie, 'Christian City Councillors in the Roman Empire Before Constantine', *Interdisciplinary Journal of Research on Religion* 5 (2009) 2–20; M. Öhler, 'Graeco-Roman Associations, Judean Synagogues and Early Christianity in Bithynia-Pontus', *Authority and Identity in Emerging Christianities in Asia Minor and Greece* (ed. C. Breytenbach and J. Ogereau; AJEC 103; Leiden: Brill, 2018) 62–88.

7 R. L. Mullen, *The Expansion of Christianity: A Gazetteer of its First Three Centuries* (VC Suppl. 69; Leiden/Boston: Brill, 2004); F. Trombley, 'Overview: The Geographical Spread of Christianity', *The Cambridge History of Christianity*, vol. I: *Origins to Constantine* (ed. M. M. Mitchell and F. M. Young; Cambridge: Cambridge University Press, 2006) 302–13; W. Tabbernee, ed., *Early Christianity in Contexts: An Exploration across Cultures and Continents* (Grand Rapids: Baker Academic, 2014).

8 C. K. Rothschild and J. Schröter, eds., *The Rise and Expansion of Christianity in the First Three Centuries of the Common Era* (WUNT 301; Tübingen: Mohr Siebeck, 2012).

9 C. Breytenbach, ed., 'The Rise and Expansion of Christianity in Asia Minor: First Steps Towards a New Harnack', *EC* 2 (2011) 547–52. Two volumes are in print: U. Huttner, *Early Christianity in Asia Minor*, vol. I: *Early Christianity in the Lycus Valley* (AJEC 85; Leiden/Boston: Brill, 2013); C. Breytenbach and C. Zimmermann, eds., *Early Christianity in Asia Minor*, vol. II: *Early Christianity in Lycaonia and Adjacent Areas: From Paul to Amphilochius of Iconium* (AJEC 101; Leiden and Boston: Brill, 2017).

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Hellenistic cults,[10] including Isis,[11] Sarapis[12] and Jupiter Dolichenus.[13] Drawing on some of these results, I want to ask a different question, not about the broad geographic diffusion of the Christ cult but instead how it moved at the level of the street and neighbourhood. It is at this point that theoretical insights from two disciplines provide useful heuristics, not to manufacture new data, but instead to allow us to read our data with new eyes, and to see new interpretive possibilities.[14] These disciplines are network theory and epidemiology.

10 B. Kowalzig, 'Cults, Cabotage, and Connectivity: Experimenting with Religious and Economic Networks in the Greco-Roman Mediterranean', *Maritime Networks in the Ancient Mediterranean World* (ed. J. Leidwanger and C. Knappett (Cambridge: Cambridge University Press, 2013) 93–131 ; C. Bonnet and L. Bricault, *Quand les dieux voyagent. Cultes et mythes en mouvement dans l'espace méditerranéen antique* (Geneva: Labor et Fides, 2016).

11 M. Malaise, 'La diffusion des cultes égyptiens dans les provinces européennes de l'Empire romain', *ANRW* II.17.3 (1984) 1615–91; T. Hegedus, 'The Urban Expansion of the Isis Cult: A Quantitative Approach', *Studies in Religion / Sciences Religieuses* 27 (1998) 161–78; L. Bricault, *Atlas de la diffusion des cultes isaiques (IV^e s. av. J.-C. – IV^e s. apr. J.-C.)* (Mémoires de l'académie des inscriptions et belles-lettres 23; Paris: Éditions de Boccard, 2001); L. Bricault, 'La diffusion isiaque, une ésquisse', *Fremdheit - Eigenheit: Ägypten, Griechenland und Rom. Austausch und Verständnis* (ed. P. C. Bol, G. Kaminski and C. Maderna; Städel-Jahrbuch, Neue Folge 19; Munich: Prestel, 2004) 548–56.

12 Peter Marshall Fraser, 'Two Studies on the Cult of Sarapis in the Hellenistic World', *Opuscula Atheniensia* 3 (1996): 1–54.

13 A. Collar, 'Military Networks and the Cult of Jupiter Dolichenus', *Asia Minor Studies* 64 = Dolichener und Kommagenische Forschungen IV (2011) 217–45, Plates 1–3; 'Commagene, Communication and the Cult of Jupiter Dolichenus', *Iuppiter Dolichenus: vom Lokalkult zur Reichsreligion* (ed. M. Blömer and W. Engelbert; Orientalische Religionen in der Antike 8; Tübingen: Mohr Siebeck, 2012) 99–109; *Religious Networks in the Roman Empire: The Spread of New Ideas* (Cambridge: Cambridge University Press, 2013). See also the review by Mihály Loránd Dészpa, 'Rez.: Michael Blömer – Engelbert Winter (hrsg.), Iuppiter Dolichenus. Vom Lokalkult zur Reichsreligion', *Klio* 96.2 (2014): 749–56.

14 On the application of social network theory to antiquity, see in general S. Graham and G. R. Ruffini, 'Network Analysis and Greco-Roman Prosopography', *Prosopography Approaches and Applications: A Handbook* (ed. K. S. B. Keats-Rohan; Prosopographia et Genealogica; Oxford: Oxford University Press, 2007) 325–36; A. Collar, 'Network Theory and Religious Innovation', *Greek and Roman Networks in the Mediterranean* (ed. I. Malkin, C. Constantakopoulou and K. Panagopoulou (London/New York: Routledge, 2009) 144–57. For particular applications: G. R. Ruffini, *Social Networks in Byzantine Egypt* (Cambridge/New York: Cambridge University Press, 2008) (Byzantine Egypt); A. M. Schor, *Theodoret's People: Social Networks and Religious Conflict in Late Roman Syria* (Transformation of the Classical Heritage 48; Berkeley: University of California Press, 2011); Collar, *Religious Networks*; C. Taylor and K. Vlassopoulos, eds., *Communities and Networks in the Ancient Greek World* (Oxford: Oxford University Press, 2015); E.-M. Becker, *The Birth of Christian History: Memory and Time from Mark to Luke-Acts* (ABRL; New Haven: Yale University Press, 2017) 82–5 (Luke-Acts); and J. Fousek *et al.*, 'Spatial Constraints on the Diffusion of Religious Innovations: The Case of Early Christianity in the Roman Empire', *PLoS ONE* 13.12 (2018) e0208744.

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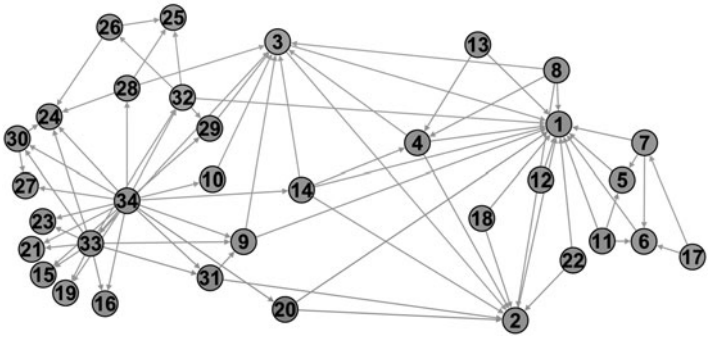


Figure 1. Hubs and peripheries (1, 2, 3, 34 are hubs)

2. Networks and Contagions

There are of course many kinds of networks, including networks of cities linked by roads, airports and harbours; networks of neighbourhoods created by subway and transit lines; and of course many kinds of networks created by the World Wide Web. Social networks – networks of people – are created by a variety of institutions: the family, marriage, the workplace, commercial and fiscal relationships, cultic organisations and the civic assembly, and by sheer spatial contiguity – working or living on the same street or in the same neighbourhood as others. My 'ego network' includes my family and more distant relatives, the colleagues and students in my department, colleagues at other universities, my friends, my next-door neighbours, bank manager, lawyer, friends from high school and various chance acquaintances. It is centred in Toronto at the University, but extends to Western Canada, Boston, Germany, Israel, Scandanavia, South Africa, Bulgaria, Italy, and includes academics, musicians, lawyers, engineers, archaeologists, rabbis, two Anglican priests and an artist.

In a social network, some nodes are strongly connected to others, with frequent and intense interactions or multiplex relations, for example, where co-workers also belong to the same family and live in the same neighbourhood, and have common religious commitments. Others connections are weak, with either infrequent interactions – distant acquaintances – or a connection based on a single shared characteristic. Some nodes have many neighbours with whom they are connected directly and interact frequently; others have few connections. A network map can identify 'hubs' that connect many nodes, and peripheral nodes with only one or two connections (Fig. 1). If important information enters the network, it is good to be a hub; if an infection enters, it is good to be at the periphery. Strong ties are strong in two senses. On the one

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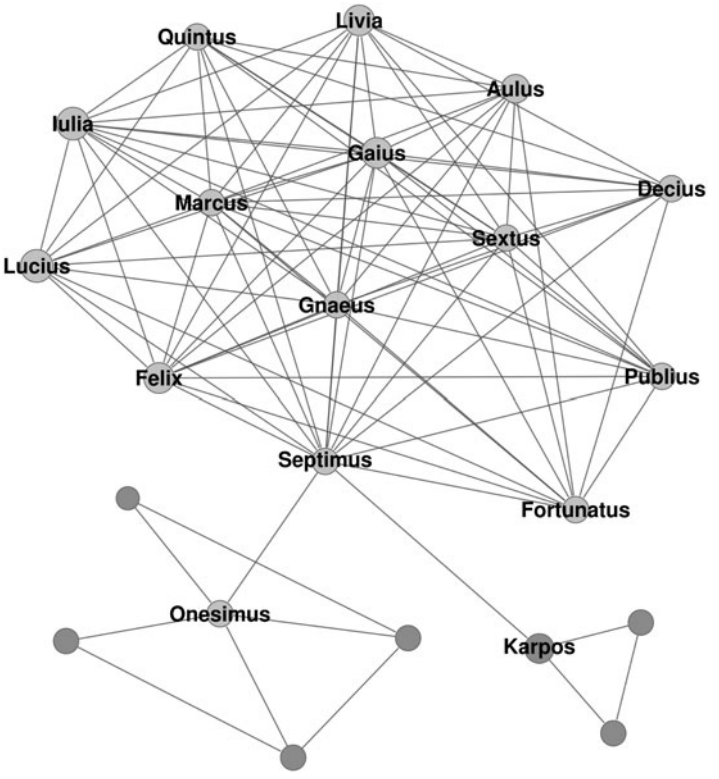


Figure 2. Strong ties, weak ties

hand, nodes are connected by frequent and intense interactions.[15] On the other, the persons with whom one is strongly connected are themselves likely to be connected to each other, thus producing 'triads' (Fig. 2). My closest friends are probably also each other's friends. Weak ties have the opposite characteristics: nodes that are weakly connected have infrequent or even rare interactions. And those with whom one is weakly linked are unlikely to be connected with each other. My distant acquaintances might have strong connections of their own, but they are not likely to be connected to each other.

One of the counter-intuitive findings of network theory is that weak ties are disproportionately important in diffusion across networks. In an important article in 1973 Mark Granovetter showed that while strong ties provide their nodes with a

15 M. S. Granovetter, 'The Strength of Weak Ties', *American Journal of Sociology* 78 (1973) 1360–80, at 1361: 'the strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie. Each of these is somewhat independent of the other, though the set is obviously highly intracorrelated.'

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high degree of stability, because each node is multiply and tightly connected to its neighbours, weak ties are more likely to be the vectors for new information, innovations and infections.[16] Job seekers were more likely to obtain information about a new opportunity from someone with whom they were not strongly connected. The logic is that an acquaintance – a weak link – is more likely to move in different circles than one's friends, and so have access to information that is not part of one's ego cluster.[17] Correspondingly, individuals with very few weak ties are likely to be deprived of information from distant parts of their network, or at least information from distant parts is likely to arrive very slowly.[18]

In a large world network where, hypothetically, each node is connected to a neighbour on each side, information will move, but will do so slowly until it has reached the most distant parts of the network. But Duncan Watts showed through mathematical modelling that in a large network, the addition of a few weak ties that join distant parts of the network dramatically improved the rate of diffusion for simple contagions. Such a network becomes a 'small world'.[19] This is because information can move not only to its immediate neighbours, but it can jump to distant parts of the network in a single step and propagate laterally from there. Computational models suggest that the introduction of two or three weak ties into a large network reduces the diffusion time by as much as two-thirds (Figs. 3 and 4).[20]

This model of network diffusion works well in the case of the diffusion of information, news and rumours, but also infections.[21] A recent outbreak of measles in

16 Granovetter, 'Weak Ties'; see also M. S. Granovetter, 'The Strength of Weak Ties Revisited', *Sociological Theory* 1 (1983) 201–33. 'Strong' and 'weak' are of course relative to one's position in networks. A weak tie (acquaintance) in one network might have strong ties to other networks, and *mutatis mutandis* with strong ties.

17 Granovetter, 'Weak Ties Revisited', 205. Granovetter reports other empirical studies that supported the 'strength of weak ties' thesis, but noted differences between administrative and managerial employees, office workers, semi-professionals and blue collar workers, and differences indexed to educational levels.

18 Granovetter, 'Weak Ties Revisited', 202. D. J. Watts, *Six Degrees: The Science of a Connected Age* (New York: Norton, 2003) 230 observes that an isolated and tightly organised cluster – for example, the Branch Davidians – could maintain a set of completely implausible beliefs and practices and resist more reasonable ideas as long as they maintained a network of mutually reinforcing influences (strong ties) and prevented nodes from interacting with those outside the cluster (weak ties). The point is that strong ties resist innovation (or new ideas).

19 D. J. Watts, 'Networks, Dynamics, and the Small-World Phenomenon', *American Journal of Sociology* 105 (1999) 493–527; D. J. Watts and S. H. Strogatz, 'Collective Dynamics of "Small-World" Networks', *Nature* 393 (4 June 1998) 440–2. The classic study is J. Travers and S. Milgram, 'An Experimental Study of the Small World Problem', *Sociometry* 32 (1969) 425–43.

20 D. Centola, *How Behavior Spreads: The Science of Complex Contagions* (Princeton Analytical Sociology Series; Princeton: Princeton University Press, 2018) 27–9.

21 For the diffusion of elective cults, epidemiological models have been endorsed by Collar, *Religious Networks* and G. Woolf, 'Only Connect? Networks and Religious Change in the Ancient Mediterranean World', *Hélade* 2 (2009) 43–58, at 51.

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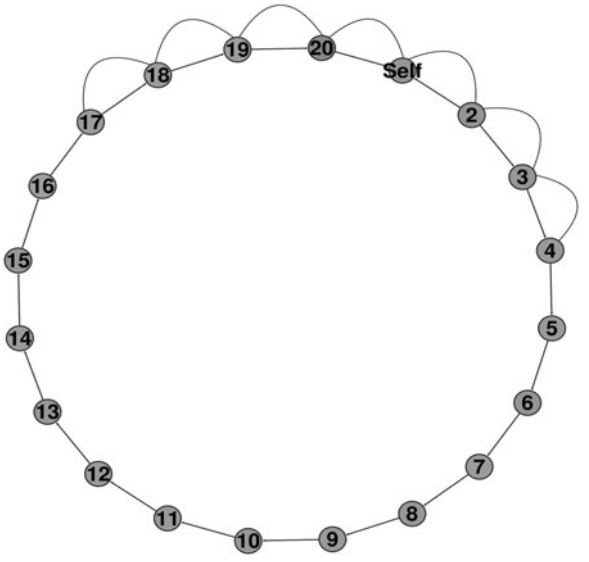


Figure 3. Large world network

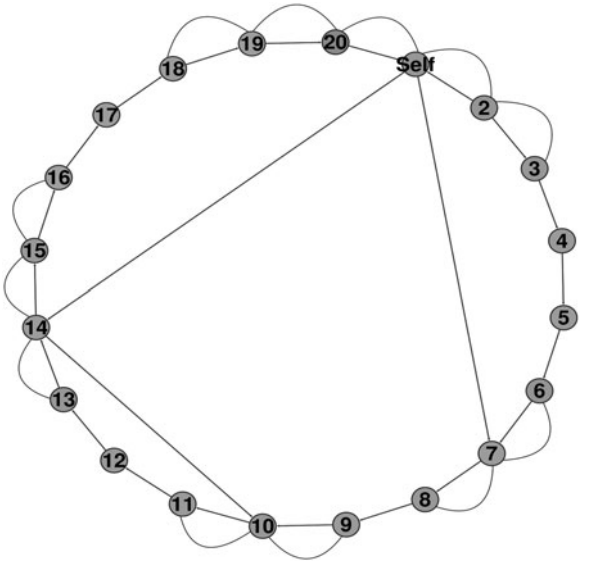


Figure 4. Small world network

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the Pacific Northwest was likely introduced into a close-knit population of anti-vaxers in Clark County (Washington) by a traveller from Russia or the Ukraine. The weak link – the traveller – brought the infection into a highly clustered network where it propagated quickly. Measles was soon detected in Vancouver to the north, diffused probably via highways or airlines. Granovetter's model of the 'Strength of Weak Ties' seemed to have been confirmed: a casual or occasional contact – a weak link – was the vector of infection transmission.

At this point it is necessary to distinguish simple contagions from complex contagions. Information, rumours and infections can diffuse through a large network, aided significantly by the presence of weak ties. These are *simple contagions*. The threshold for reception is low and no agency is required on the part of the recipient.[22] A single contact is sufficient to transmit information or an infection like measles. By contrast, the prevention of infection in the same network propagates much more slowly, despite the presence of weak ties. Infection protection, like exercise, adopting healthy (or unhealthy) diets and stopping smoking, is a *complex contagion*: it requires subjects to adopt a different behaviour and to maintain that behaviour over time. The prevention of measles needs parents to have themselves and their children vaccinated and to maintain the regime of boosters in order to achieve herd immunity.[23] In a population of anti-vaxers, this requires persuasion.

Ironically, mathematical modelling suggests that the presence of weak ties in a small world network actually inhibits or even stops diffusion entirely.[24] This is because, if the new behaviour requires two or three 'nudges' from network neighbours to persuade a susceptible person to activate the desired behaviour, a single nudge from a weak link will be ineffective. In a highly clustered network of convinced anti-vaxers, a single nudge from a weak link cannot overcome the counter-pressure not to adopt vaccination practices.

What has this to do with the diffusion of cultic practices and the spread of the Christ cult? The adoption of a new cultic practice, in particular one that might entail some serious costs, would appear to qualify as a complex contagion. Adoption requires agency on the part of the recipients, multiple concerted 'nudges' or other incentives to adopt the cult, and incentives to persist in the

22 Agency plays virtually no role in the transmission of measles. Because measles is a simple contagion with a very high reproduction rate or 'R-nought number' (R_0), an unvaccinated person coming in close contact with an infected person will in all probability become infected. The R_0 for measles, which is transmitted by aerosol contact, is 12–20, meaning that an infected subject will infect on average 12–20 susceptible persons. By contrast, the R_0 for cholera, which has a faecal-oral pathway, is in many locales < 3.0.

23 P. Fine, K. Eames and D. L. Heymann, '"Herd Immunity": A Rough Guide', *Clinical Infectious Diseases* 52 (2011) 911–16.

24 Centola, *How Behavior Spreads*, 40–2.

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practice of the cult.[25] In what follows I will illustrate the heuristic values of network theory and the notion of a complex contagion in relation to Paul's Christ assemblies at Thessaloniki and Corinth.

3. The Christ Cult as a Complex Contagion

Acts gives the impression that the cult of Christ diffused as a simple contagion. Paul entered a city, delivered a speech or two or performed a miracle. This won him an immediate following. And he left almost immediately. This is precisely what Acts 17 suggests. It offers an extremely compressed and schematic account of Paul's activities in Thessaloniki, implying a very short stay. The short duration of Paul's stay in Thessaloniki imagined by Acts might have been sufficient if the cult of Christ was a simple contagion. But 1 Thessalonians suggests that it was not.

In 1 Thessalonians Paul recalls the troubles that were experienced by the new Christ-followers and refers to his own experience of mistreatment in Philippi. In fact, it is obvious that after he had left Thessaloniki Paul worried that the group had collapsed entirely. We know of other groups that did collapse. It was only upon Timothy's return to Paul in Athens that he realised that the group had not collapsed but was, evidently, thriving.

At several points Paul alludes to the costs of adoption – that is, disincentives to persist in the Christ cult: the θλῖψις experienced by the new Christ-followers (1 Thess 1.6); unspecified hostility shown by other Macedonians (2.14); and Paul's own strenuous efforts (ἐν πολλῷ ἀγῶνι, 2.2) at preaching the gospel. Some of this is probably hyperbole and stock language associated with the triumph of a deity arriving in a new location. Stories of local opposition and various difficulties are also part of narratives of Sarapis arriving on Delos and later in Opus, where the narrative trope of opposition serves to underscore the ability of the deity to overcome opposition and hostility.[26] Nevertheless social network models of diffusion suggest that the adoption of a new cult with distinctive behavioural requirements and attitudes (outlined in 4.3–12; 5.1–22) and perhaps reputational costs was not a simple contagion easily adopted. On the contrary, it required multiple 'nudges' and incentives. The short stay in Thessaloniki

25 See also D. McAdam and R. Paulsen, 'Specifying the Relationship between Social Ties and Activism', *American Journal of Sociology* 99 (1993) 640–67, at 646, who observe in relation to activism, 'any major decision we are contemplating will likely be mediated by a significant subset of [close] relationships. This, of course, would apply to participation in any significant forms of activism, especially those of the "high-risk" variety.'

26 See *IG* XI/4.1299 (Delos, before 166 BCE) and *IG* X/2.1.255 (Thessaloniki, 1st–2nd cent. CE) = *GRA* I.77.

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implied by Acts would hardly be sufficient to effect recruitments. Paul's presence there would have been mostly ephemeral.

Paul's letter to the Thessalonians, however, presents a more complicated process. Richard Ascough has argued that the Thessalonian Christ group probably began as an occupational guild in which Paul worked.[27] Indeed, in 1 Thessalonians Paul stresses his own 'labour and toil' (ὁ κόπος ἡμῶν καὶ ὁ μόχθος, 2.9) as a way to identify with his addressees and encourage them to 'work with their hands' (4.11). This is not the ephemeral presence in Thessaloniki that Acts 17 implies; it suggests that he remained in the town for some time.

Complex contagions typically require multiple 'nudges' in order to propagate effectively. If Paul came to be connected with the Thessalonian workers through translocal links of occupational guilds, this was in network terms a weak link. Network theory, as it pertains to complex contagions, might suggest that by himself Paul would have been ineffective in propagating a complex contagion. Both Acts and 1 Thessalonians, however, suggest that Paul had co-workers, Silvanus and Timothy (1 Thess 1.1),[28] and that Timothy's connection with Thessaloniki was sufficiently strong for him to be able to return to Thessaloniki after Paul's departure to reinforce their adherence (1 Thess 3.2, 3). Network theory prompts us to take more seriously the roles of Silvanus and Timothy. In network terms, all three were essential in providing 'nudges' to the Thessalonian handworkers to adopt the cult of Christ. The three artisans must have formed strong ties with the Thessalonian handworkers. Without multiple incentives and strong supportive ties, a complex contagion such as the Christ cult would almost certainly fail.

Epidemiological studies indicate that sometime after an infection enters a network and has begun to propagate, it achieves a 'phase transition' or 'tipping point' when the infection no longer requires external inputs, but becomes self-sustaining.[29] Fig. 5 adapts the notion to the spread of a complex contagion in Thessaloniki. Paul, Silvanus and Timothy were all instrumental and indeed

27 R. S. Ascough, 'The Thessalonian Christian Community as a Professional Voluntary Association', *JBL* 119 (2000) 311–28. See also J. S. Kloppenborg, *Christ's Associations: Connecting and Belonging in the Ancient City* (New Haven: Yale University Press, 2019) 88–91.

28 Acts 17.1 mentions only Paul and Silas (= Silvanus?) entering Thessaloniki, but Acts 17.14, 15 and 18.5 suggest that Timothy was also present.

29 See M. Gladwell, *The Tipping Point: How Little Things Can Make a Big Difference* (Boston: Little, Brown, 2002); Watts, *Six Degrees*, 239–41; C. Kadushin, *Understanding Social Networks: Theories, Concepts, and Findings* (New York: Oxford University Press, 2012) 153–5. See also I. Malkin, *A Small Greek World: Networks in the Ancient Mediterranean* (Greeks Overseas; New York: Oxford University Press, 2011) 36: the phrase transition occurs 'when a network reaches a point when nodes appear in clusters with only a few links connecting them. The addition of a relatively small number of links can result in isolated groups suddenly coalescing into a giant cluster … The giant cluster engenders multidirectional ripple effects.'

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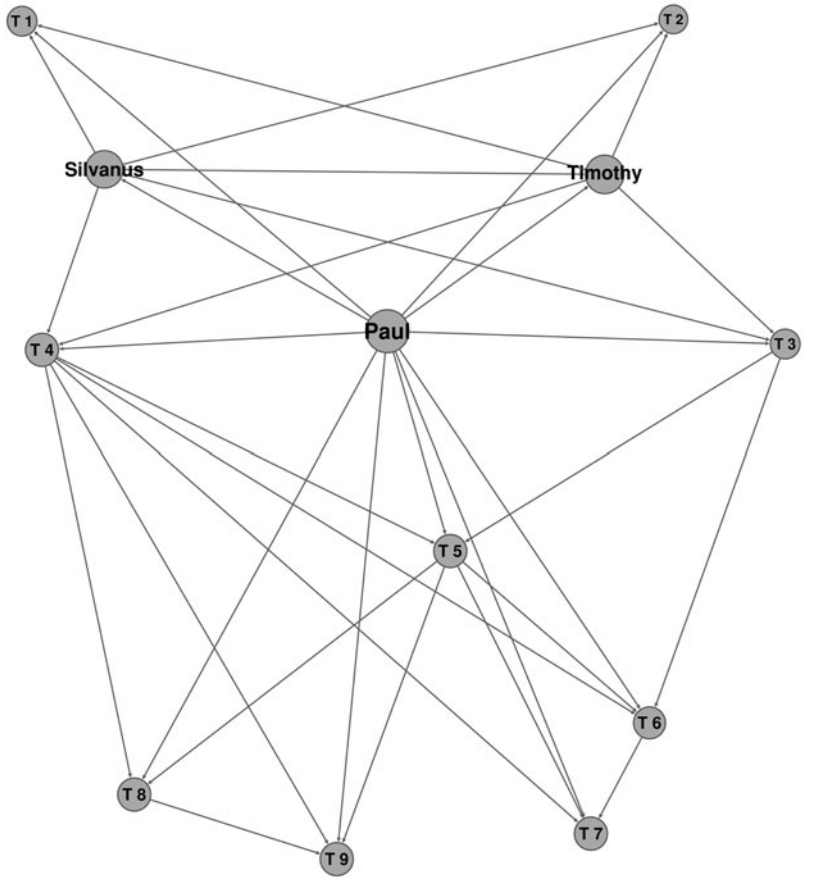


Figure 5. Paul, Silvanus and Timothy in Thessaloniki

essential at the earliest stages in persuading the group of Thessalonians to adopt the Christ cult, despite its costs. In this hypothetical visualisation, T1–4 were early adopters, prompted by the three visitors. But T3 and T4 eventually became instrumental in the diffusion of the cult to T5–9, so that the inputs of Paul and the others were not as critical. By the time Paul wrote 1 Thessalonians, it appears that the Christ group had not only survived but thrived and that its existence had become widely known (1 Thess 1.8).[30] This network construction, of course, is speculative, but it is based on the principle that adoption of a difficult or contested

30 R. S. Ascough, 'Re-Describing the Thessalonians' "Mission" in Light of Greco-Roman Associations', *NTS* 60 (2014) 61–82 is correct, I think, to interpret 1 Thess 1.8 to mean not that the Thessalonian Christ devotees had themselves become 'missionaries', but rather that the *news* of the coming of Christ to Thessaloniki had become known. Indeed, one of the obligations of a newly arrived deity is for the adherents to broadcast that arrival.

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behaviour requires nudges from several neighbours in order to become effective, and that at a certain point the contagion becomes self-sustaining.

4. The Adoption of Behavioural Innovation

The diffusion of cultic behaviour through social networks has at least three requirements: first, a viable network structure that explains how a cult moved from one site to another; second, attention to what I will call the 'ecology' of the cult; and third, recipients susceptible to diffusion. Epidemiology offers some important models for thinking about the propagation of cultic behaviour.

4.1 *Reconstructing Networks*

Like the spread of infections, behavioural innovation depends on the existence of a transmitting network. In Corinth Paul probably had access to at least three networks, based on his identity as an artisan,[31] his connections with diasporic synagogues, and commercial networks. First, Paul, Timothy and Silvanus, if all three were artisans, would have had access to occupational guilds, presumably the σκηνοποιοί, in Philippi, Thessaloniki and Corinth. Prisca and Aquila, who were σκηνοποιοί, also had connections with Ephesus and Rome. Because trades tended to cluster in the ancient city, occupational guilds provided ready-made intersections with members of other guilds located on the same street or alley, and with both patrons and customers of those guilds. Second, networks of diaspora synagogues provided Paul with a second set of connections. We know less about synagogue networks, but Acts assumes that both Ephesus and Corinth had synagogues that Paul might have exploited. Finally, the references to Chloe's agents and Stephanas and his two slaves or freedmen[32] arriving in Ephesus (1 Cor 1.11 and 16.17) probably point to commercial networks that enabled them to contact Paul while he was in Ephesus.[33] The network

31 Given the spatial clustering of trades in an ancient city, it was relatively easy for a newcomer to a city to locate his trade, and once connected, a ready-made network was available. A guild of, say, awning makers (σκηνοποιοί, Acts 18.3) might be located adjacent to other guilds associated with textile manufacture. The Tosephta says that the great synagogue in Alexandria was structured in order to facilitate travelling artisans being able to connect with persons of similar trades (t. Sukk. 4.6). Other diaspora assemblies may similarly have functioned to connect artisans and merchants with each other.

32 Fortunatus is one of the most common slave names. See T. Frank, 'Race Mixture in the Roman Empire', *AHR* 21 (1916) 589–708, at 692, and H. Solin, *Die stadtrömischen Sklavennamen: Ein Namenbuch*, vol. I (Forschungen zur antiken Sklaverei, Beiheft 2; Stuttgart: Franz Steiner, 1996) 95–8 (Fortunatus/-a: 225 occurrences). Achaicus is not otherwise attested in Solin, but since it means 'the Achaian', we might presume that Achaicus was as some point the Greek slave of a Roman owner.

33 According to the Orbis site (http://orbis.stanford.edu/), travel from Corinth to Ephesus would take 3.1 days by sea, and almost 50 by land.

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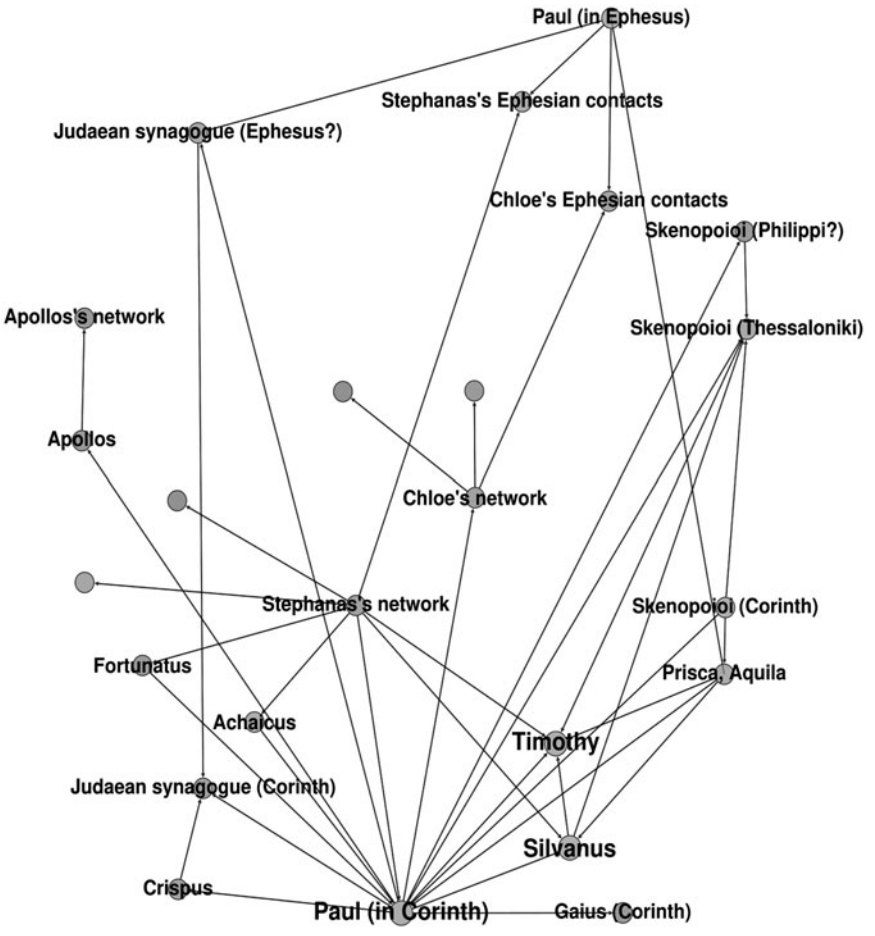


Figure 6. Paul's Aegean network

visualisation (Fig. 6) depicts the (hypothetical) network of artisans in Ephesus, Philippi, Thessloniki and Corinth, the commercial networks connected to Stephanas and Chloe, and a synagogue network between Ephesus and Corinth.

Intersections between networks probably account for the transmission of other cults. For example, a network of occupational guilds in Sentium had connections with a Mithraic cell (Fig. 7). The *fabri* (builders) had as their patron a certain Memmia Victoria, whom they co-opted as the 'mother' of the collegium. They also decided to co-opt her son Coretius Fuscus, a decurion of the town of Sentium, as a patron,[34] and to that end inscribed a deluxe bronze tablet (*tabula*

34 *CIL* XI.5748, a bronze tablet, 57 × 40 cm., Musei Capitolini, inv. 7342. Sala della Colombe.

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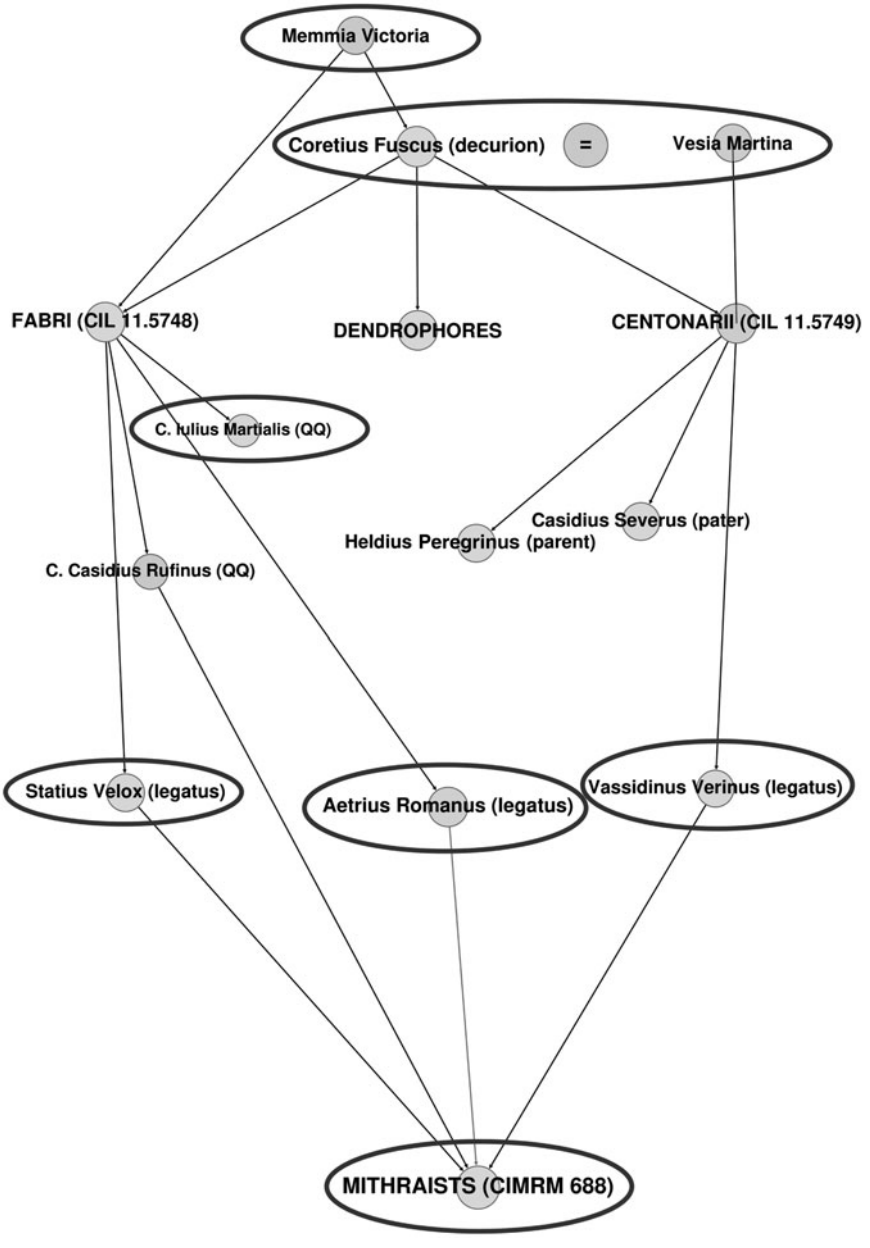


Figure 7. A patronage network in Sentium

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patronatus)[35] to place in his house. Their decree was signed by the two *quinquennales* of the *fabri* and sixteen *legati* of that club. But we know that one of the two presidents and two of these *legati* were also among the thirty-five members of a Mithraic cell in Sentium, whose membership list we have.[36] Coretius Fuscus, moreover, and his wife Vesia Martina were also patrons of the textile dealers (*collegium centonariorum*),[37] one of whose *legati* was also a member of the same Mithraic cell. It seems likely that other *fabri* and *centonarii* were also Mithraists, but since we do not have membership lists of either guild it is impossible to know. It appears that patronage connected these two guilds (and the dendrophores), and that the two guilds served as venues for recruitment to a Mithraic association.

We might suppose that same for the Christ cult in Thessaloniki: the connections among the handworker guilds in Thessaloniki created by patronage and by physical proximity of workshops probably facilitated recruitment to the Christ cult. Thus, the Christ cult spread along the street through network connections.[38]

4.2 *Cult Ecology*

By 'cult ecology' I mean what a cult needs to survive. This concept is borrowed from epidemiology where it has to do with the conditions that allow an infection to survive and propagate. Malaria needs the *Anopheles* mosquito; measles needs temperate climates and moist surfaces, since the virus survives less than two hours in air. Understanding the ecology of an infection is key in preventing its spread.[39] Elective cults also have ecological requirements. Ecological success translates into the diffusion of the cult, while the failure to meet ecological requirements leads to its collapse.

35 See J. Nicols, '*Tabulae patronatus*: A Study of the Agreement between Patron and Client-Community', *ANRW* II.13 (1980) 535–61.

36 *CIL* XI.5737; *ILS* 4215; *CIMRM* I.688.

37 *CIL* XI.5749. They were also patrons of the dendrophores, but we lack epigraphical evidence for the dendrophores at Sentium.

38 See now a reconstruction of cultic networks in Ostia: J. S. Kloppenborg, 'Occupational Guilds and Cultic Associations in Ostia Antica: Patronage, Mobility, Connectivity', *Roman Imperial Cities in the East and in Central-Southern Italy* (ed. N. Andrade, *et al.*; Ancient Cities; Rome: L'Erma di Bretschneider, 2019) 413–36 and the earlier work of D. Rohde, *Zwischen Individuum und Stadtgemeinde: Die Integration von collegia in Hafenstädten* (Studien zur Alten Geschichte; Mainz: Verlag Antike, 2012).

39 Measles, for example, is transmitted through aerosol contact and has an incubation period of about two weeks; but the virus is vulnerable to high temperatures, sunlight and low (acidic) *p*H environments. This means that measles propagates best in temperate environments and has the highest incidence in late winter/early spring or after rainy seasons. Of course, measles is not able to spread effectively in a population that has achieved the threshold for 'herd immunity', since vaccinated (non-susceptible) links in the network break the pathways for the diffusion of the infection.

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A dramatic example of collapse is provided by a collegium of Jupiter Cernenus in Albernus Maior (Dacia, modern Roşia Montană), 167 CE. That year the secretary of the collegium posted wax tablets announcing the dissolution of the group. Of its fifty-four original members, only seventeen remained. The co-president had never attended a meeting. Because no funds were left to buy coffins, the secretary announced, *si quis defunctus fuerit ne putet se collegium habere* (*IDR* I.31). The cause of the failure was perhaps the Antonine plague, which struck the Western Empire in 165 CE, or depopulation of the mines as a result of the invasion of Dacia by the Sarmatians (*ca.* 167 CE) during the Marcomannic War.[40] In either case, so devastating was the result that the group was apparently unable to recruit replacement members through either occupational or family networks. The group simply collapsed.

An instance of ecological success is offered by *P.Mich.* VIII.511 (late 2nd cent. CE), a letter from a certain Ptolemaios to his father Kastor in the village of Karanis on the northern edge of the Fayûm. Ptolemaios, who had moved from Karanis to the metropolis, Arsinoe-Krokodilopolis, reports that he had been invited to join a group of Sarapiastai as their ἀγορανόμος. This role, which is attested in other cult associations,[41] is obviously borrowed from the civic role of the same name. It probably involved the supervision of the banquet and perhaps obtaining a venue for the meal.[42] Ptolemaios told his father that he was required to supply five donkey loads of firewood, probably for the roasting of the sacrifices, and was writing to his father for help.[43] Typically officials of this nature would have other liturgical responsibilities imposed upon them, which meant that recruits to this role not only needed administrative competences and social connections, but also had to be persons of some means.

40 D. Mitrofan, 'The Antonine Plague in Dacia and Moesia Inferior', *Journal of Ancient History and Archeology* 1 (2014) 9–13. J. Liu ('Group Membership, Trust Networks, and Social Capital: A Critical Analysis', *Work, Labour, and Professions in the Roman World* (ed. K. Verboven and C. Laes; Impact of Empire 23; Leiden: Brill, 2017) 203–26, at 200–12) suggests by contrast that the failure of the group is due to an economic downturn that resulted from the Marcomannic War, which meant that fewer members could afford the yearly or monthly fees, and fewer were in a position to make special contributions, coupled with the inability of the collegium to enforce (with fines) its behavioural rules.

41 *I.Beroia* 22 (Beroia, 7 BCE) = *SEG* 48.751: ἔτους α' καὶ μ' καὶ ρ' Ἀρτεμισίου· | Παράμονος Θεογένους *vac.* | ἀγορανομήσας τοῦ θιάσου | ἐκ τοῦ ἰδίου Διονύσωι. *vac.* || τὸ κοινὸν τῶν θιασ[ω]||τῶν Παράμονον | Θεογένου. <crown> ('Year 441, (month of) Artemesion. Paranomos son of Theogenes, having served as *agoranomos* of the association at his own expense, (dedicated this) to Dionysos. The association of *thiasōtai* (honoured) Paranomos son of Theogenes').

42 On the role of the ἀγορανόμος in Egyptian towns, see R. Alston, *The City in Roman and Byzantine Egypt* (London/New York: Routledge, 2002) 190–2.

43 For the supply of wood for roasting sacrifices, see *IG* XII/5.606.6 (Iulis, Cos); *P.Cair.Zen.* II.59154 (Philadelphia, 256 BCE), 59191.3–4 (Philadelphia, 255 BCE); *P.Oxy.* VIII.1144.15 (Oxyrhynchus, 75–125 CE); *SEG* 31.122.42, 45 = *GRA* I.50 (Liopesi, *ca.* 100 CE).

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We cannot tell how the Sarapiastai in Arsinoe came to be connected with Ptolemaios,[44] but it seems safe to conclude that there was a network through which Ptolemaios' administrative competences were known. His Karanis network, however, is known through the archive of Sokrates (I), the *praktor argyrikōn* of Karanis,[45] consisting of 30–50 documents. This archive provides ample testimony to Ptolemaios' administrative competences (Fig. 8).

Ptolemaios' father Kastor was the κωμογραμματεύς of Ptolemais Nea near Karanis and probably Sokrates's half-brother. The extended family had significant administrative experience, with various members serving as *praktores argyrikōn*, *sitologoi* and *laographoi*. Ptolemaios' own son Horion was the *horiodeiktēs* (charged with the settling of boundaries). Since several of these roles were liturgies that presupposed a minimum census requirement on the part of the liturgist,[46] we can assume that the family had at least a modest level of wealth. The extensive correspondence in the archive also indicates frequent administrative and personal contacts with the villages surrounding Karanis, and with the 'city' (i.e. Arsinoe). Thus, Ptolemaios seems ideally suited as an ἀγορανόμος: he had administrative competences, connections with Karanis (from which wood could be supplied) and a degree of wealth. The survival of the Sarapiastai depended upon their ability to locate and recruit competent administrators to arrange resources and banquet venues. They had been successful in locating Ptolemaios, probably through a commercial or administrative network.[47]

It is unclear how many 'nudges' it would have taken to convince Ptolemaios to assume this role. Belonging to the cult of Sarapis was not socially dangerous and the role of ἀγορανόμος, as Ptolemaios explained to his father, brought with it privileges: a seat at the κλίνη of Sarapis, exemption from the initiation fee and double portions of food and drink (διπλᾶ μέρη, *P.Mich.* VIII.511.7). Since the

44 Since Ptolemaios does not mention any others in the letter apart from δύο φίλοι (both nameless), the network in Arsinoe is unlikely to be a family network of persons known to Kastor.

45 K. Vandorpe, W. Clarysse and H. Verreth, *Graeco-Roman Archives from the Fayum* (Collectanea Hellenistica - KVAB VI; Leuven/Paris/Bristol: Peeters, 2015) 373–8 and TM archive at www.trismegistos.org/arch/detail.php?arch_id=109. The archive consists of at least thirty papyri (letters, declarations, census returns) and perhaps as many as fifty papyri. See also P. van Minnen, 'House-to-House Enquiries: An Interdisciplinary Approach to Roman Karanis', *ZPE* 100 (1994) 227–51; S. Strassi, 'Le carte di Σωκράτης Σαραπίωνος, πράκτωρ ἀργυρικῶν a Karanis nel II sec. d.C', *Atti del XXII Congresso internazionale di papirologia, Firenze, 23–29 agosto 1998*, vol. II (ed. I. Andorlini *et al.*; (Florence: Istituto papirologico G. Vitelli, 2001) 1215–28; D. Hagedorn, 'Sokrates und Asklepiades, Praktoren in Karanis', *ZPE* 167 (2008) 149–50.

46 The archive includes *P.Mich.* IX.536 (Karanis, 185 CE), a nomination list for liturgies of assisting in tax collection, prepared by Kastor. The list includes the net worth of each individual and declares that all are εὔποροι καὶ ἐπι‹τή›δειοι, 'financially able and suitable'.

47 See further discussion of the recruitment of Ptolemaios in J. S. Kloppenborg, 'Social Networks and the Dissemination of Elective Cults', *Early Christianity* 19 (2019) 121–56.

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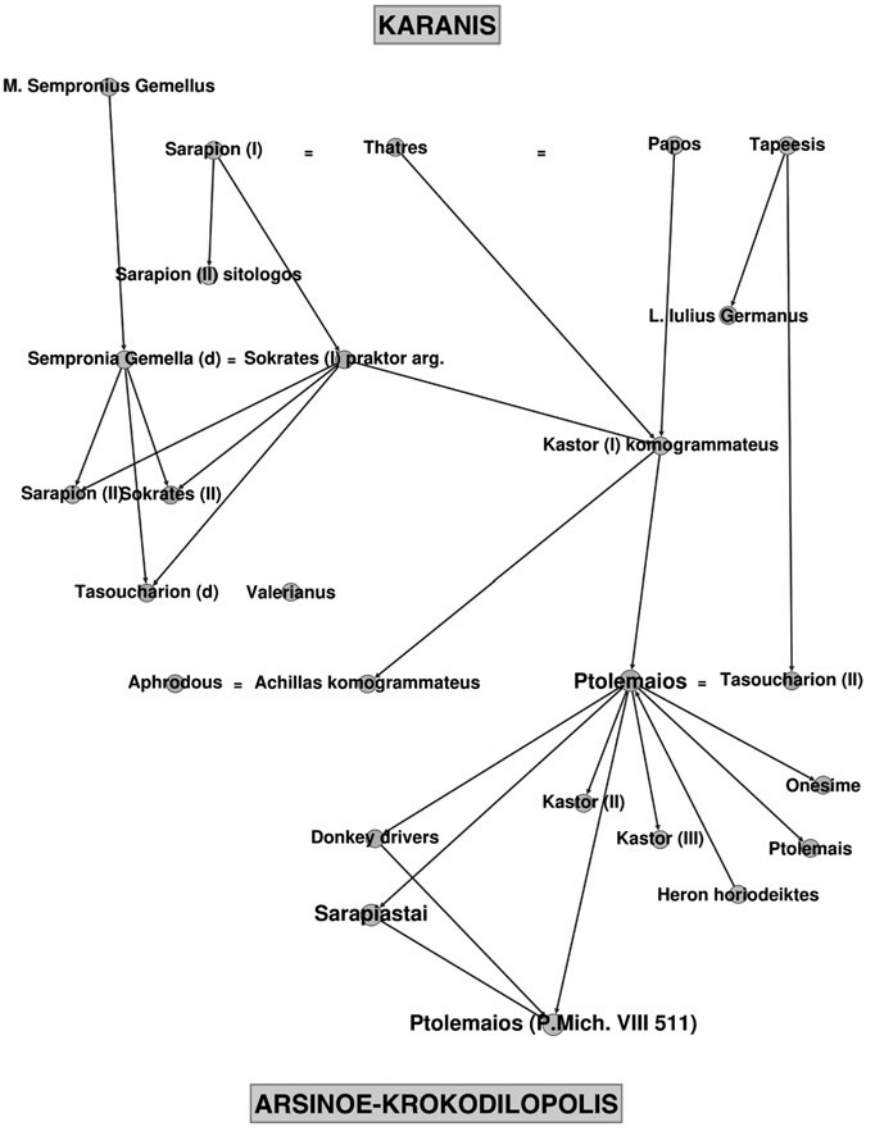


Figure 8. A family network in Karanis

κλίνη of Sarapis was likely a triclinium or *deipnēterion* in a temple or private house, holding only 15–20 diners, it was also an exclusive affair to be invited to dine at the table of the god. What was on offer was not just food, but social capital.

As Ptolemaios' letter indicates, and as the title ἀγορανόμος implies, there were costs that Ptolemaios needed to weigh. His letter indicates that he already

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had the connections to secure the firewood that was needed. (It might be that his connections with Karanis were the reasons he was recruited in the first place). Evidently, he considered those costs to be manageable and the benefits of membership advantageous. But he puts his decision in theological terms: 'It is not possible to refuse Lord Sarapis.'

The cultic ecology of a Christ group naturally involved some of the same considerations as other cults: new members had to be recruited to compensate for deaths and defections, and the maintenance of financial solvency. Yet there were challenges: even though Christ groups featured communal dining without costly animal sacrifice, the costs of meals were not negligible. While bread was not very expensive, wine represented by far the largest expense for any meal. Moreover, an analysis of the financial structure of many occupational and cultic associations indicates that none could rely on patronage as the sole support for their communal meals, even those meals that consisted – as most did – of only *panis et vinum*.[48] Member contributions or rotating liturgical requirements imposed on leaders were essential to the maintenance of the banquets. Since at least at the beginning there is no defensible evidence of elite patrons in Christ assemblies,[49] this means that they probably had to rely on the contributions of members to support group activities. This in turn meant that while some members were perhaps without resources, the group had to recruit a few members of at least modest means.

The lack of elite patrons also meant that Christ assemblies had less social capital to convey to potential members. But Christ cults were not alone in this regard: the cult of Theos Hypsistos also appealed to persons of rather humble means.[50] When they could not rely on the social capital afforded by elite

48 Kloppenborg, *Christ's Associations*, 209–39.

49 U. Fellmeth, 'Die römischen Vereine und die Politik: Untersuchungen zur sozialen Schichtung und zum politischen Bewußtsein in den Vereinen der städtischen Volksmassen in Rom und Italien' (Diss., Stuttgart, 1987); 'Politische Bewußtsein in den Vereinen der städtlichen Massen in Rom und Italien zur Zeit der Republik und der frühen Kaiserzeit', *Eirene: Studia Graeca et Latina* 27 (1990) 49–71 analysed the records of twenty-nine Italian associations (more than 2,300 names) and pointed out that while occupational guilds often had patrons/members of senatorial or equestrian ranks, *none* of the cultic associations had members or patrons above the rank of local magistrate. In a wider-ranging study (*Christ's Associations*, 192–6) I have suggested that the same was more generally true, with a very few notable exceptions. It is not until the very late second or third century CE that Christ associations were able to attract members of rank.

50 See e.g. *I.Beroia* 27 (Beroia, before 212 CE), a poorly cut dedication by a diverse group of thirty-seven handworkers and slaves, and including two Roman citizens (neither of senatorial or equestrian rank). On the dedications of the cult of Theos Hypsistos, see S. Mitchell, 'Further Thoughts on the Cult of Theos Hypsistos', *One God: Pagan Monotheism in the Roman Empire* (ed. S. Mitchell and P. Van Nuffelen (Cambridge: Cambridge University Press, 2010) 167–208, at 178–9.

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patrons, they had other strategies. Both Theos Hypsistos and Christ groups compensated for the lack of elite patrons by cultivating a discourse that referred to members as 'brothers' adopted by the god.[51]

The monetary costs of membership in a Christ group were not very high – at least in comparison to Ptolemaios' costs. The 'signalling costs' imposed by behavioural demands were, however, more substantial.[52] Christ assemblies imposed a robust set of ethical requirements on members which ranged from avoiding certain proscribed behaviours (1 Cor 5.11) to embracing such high virtues as φιλαδελφία, non-retaliation, and mutual care. Matthew's Sermon on the Mount (7.21–7) and his parables of the wedding garment (22.11–14) and the Judgement (25.31–46) are indexical to how seriously Christ groups took the performance of their ethical requirements. As I will indicate shortly, Christ groups offered much to their members; but they imposed high signalling costs as well. Hence, recruitment necessarily entailed the availability of members who were willing to meet and maintain such high ethical demands.

Literacy had a special role in the ecology of Christ groups. Unlike many other cultic associations in antiquity, the sociality of Christ groups was formed around the reading and discussion of books – at first, the Hebrew scriptures, and then, as Justin Martyr relates, the 'memoirs of the apostles' and the 'writings of the prophets' (*Apol.* 1.67.3–5). As Larry Hurtado has observed, Christ groups also produced more than 200 writings in the first two and a half centuries of the Common Era.[53] It is not that most Christ devotees could read. Literary rates were probably not any higher than the general average, less than 10 per cent. But Christ assemblies needed to recruit *some* members who were able to read and who had the intellectual resources to comment on the contents of books and eventually to produce their own literature. This was not a structural feature of such cultic associations as the Sarapiastai, or Mithraists, or devotees of Isis or Jupiter Dolichenus. These needed the likes of Ptolemaios and ritual specialists, but not necessarily readers.

51 See *CIRB* 1283 (Tanais, 228 CE), and P. A. Harland, *Greco-Roman Associations: Texts, Translations, and Commentary*, vol. II: *North Coast of the Black Sea, Asia Minor* (BZNW 204; Berlin/New York: de Gruyter, 2014) 63–70.

52 On signalling costs, see R. Sosis and C. Alcorta, 'Signaling, Solidarity, and the Sacred: The Evolution of Religious Behavior', *Evolutionary Anthropology* 12 (2003) 264–74; R. Sosis, 'The Adaptive Value of Religious Ritual: Rituals Promote Group Cohesion by Requiring Members to Engage in Behavior That is Too Costly to Fake', *American Scientist* 92 (2004) 166–72; J. W. Dow, 'The Evolution of Religion: Three Anthropological Approaches', *MTSR* 18 (2006):67–91; J. Bulbulia and R. Sosis, 'Signalling Theory and the Evolution of Religious Cooperation', *Religion* 41 (2011) 363–88.

53 L. W. Hurtado, *Destroyer of the Gods: Early Christian Distinctiveness in the Roman World* (Waco, TX: Baylor University Press, 2016) 118–19. See earlier his *The Earliest Christian Artifacts: Manuscripts and Christian Origins* (Grand Rapids: Eerdmans, 2006).

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The requirements of literacy and the ability to engage book culture meant that Christ groups probably had to cultivate connections with readers and eventually literati such as Justin. This need might have been met, not by professionally trained readers such as those employed by Roman elites like Pliny, but by those whom Guglielmo Cavallo has called 'free readers' – those who read not for *utilitas*, as Cicero observes, but for pleasure (*voluptas*).[54] They read 'for pleasure, out of habit, or because of the prestige that attached to reading … some literate, even educated, people read even though they had no connection with professions linked to the book and to written culture'.[55] Here I draw attention to one of the very networks with which Christ followers claimed to be connected: tax collectors. We know that at least some of these read and produced literature beyond what their occupations required. The tax collector Sokrates discussed above possessed not only administrative documents, as one should expect, but copies of grammatical papyri, Menander's *Epitrepontes* and the *Acta Alexandrinorum*.[56] His wife had a copy of the *Iliad*. The archive of Leonides, a flax merchant in the fourth century, contains not only commercial documents, but a poorly written copy of the first page of Romans and another non-canonical gospel.[57] These are examples of Cavallo's free readers. This might suggest that the tax collectors, who feature so importantly in the early Jesus tradition, were more instrumentally active in the maintenance and transmission of the Christ cult than has previously been thought.

54 Cicero, *Fin.* 5.52–3: *quid, cum fictas fabulas, e quibus utilitas nulla elici potest, cum voluptate legimus?* ('But what, when we read for pleasure fictitious stories from which no utility can be had?'). Cicero continues by noting (with some contempt) that persons of 'the humblest station (*homines infima fortuna*), who have no expectation of participating in public life, even mere artisans (*opifices*)' read history.

55 G. Cavallo, 'Between *volumen* and Codex: Reading in the Roman World', *A History of Reading in the West* (ed. G. Cavallo and R. Cartier (Cambridge: Polity, 1999) 65–89, at 76. G. Bazzana ('"You Will Write Two Booklets and Send One to Clement and One to Grapte": Formal Features, Circulation, and Social Function of Ancient Apocalyptic Literature', *Scribal Practices and Social Structures among Jesus Adherents: Essays in Honour of John S. Kloppenborg* (ed. W. E. Arnal *et al.*; BETL 285; Leuven: Peeters, 2016) 43–70) suggests that some of the earliest copies of apocalyptic literature circulated among such 'free readers'. See also G. Schwendner, 'Literature and Literacy at Roman Karanis: Maps of Reading', *Proceedings of the XXIV International Congress of Papyrology* (ed. J. Frösén, T. Purola and E. Salmenkivi; Helsinki: Societas Scientiarum Fennica, 2007) 991–1006 and R. S. Bagnall, 'An Owner of Literary Papyri', *CP* 87 (1992) 137–8.

56 Respectively, LDAB 4764; LDAB 2643; and LDAB 15. Other administrative archives likewise include literary texts. See Vandorpe, Clarysse and Verreth, *Graeco-Roman Archives*, 375.

57 A. Luijendijk, 'A New Testament Papyrus and its Documentary Context: An Early Christian Writing Exercise from the Archive of Leonides ("P.Oxy." II 209/ P^{10})', *JBL* 129 (2011) 575–96. For the non-canonical gospels (*P.Oxy.* II.210), see G. S. Smith and B. C. Landau, 'Canonical and Apocryphal Writings Copied by the Same Scribe: P.Oxy. II 209 (=P^{10}) and P.Oxy. II 210, and the Archive of Aurelius Leonides', *ETL* 95 (2019) 143–60.

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4.3 *Susceptibility*

The third requirement of the diffusion of a complex contagion concerns the susceptibility of potential members to be 'activated' through 'nudges' from their neighbours. Susceptibility is both a matter of the affordances offered by a recruiting group, and the threshold that is required for someone to adopt a particular behaviour and to maintain that behaviour. Some will require more 'nudges' than others.

The adoption of behavioural innovations is usually assumed to follow an arc described by Everett Rogers. Response to behavioural innovation is distributed among (a) a very small set of 'innovators' (2.5 per cent); (b) a larger set of 'early adopters' (13.5 per cent), followed by (c) 'early majority' (34 per cent), (d) 'late majority' (34 per cent) and (d) laggards (16 per cent).[58] These percentages are not easily transferable to a small ancient cultic association, which probably numbere on thirty members.[59] Yet Rogers's descriptions of the first three of these categories are worth noting. According to Rogers, innovators are typically eager to form relationships beyond their peer networks and they often have financial resources that cushion them against the risks entailed in the adoption of a new venture. Early adopters, by contrast, are not as socially adventuresome, but remain strongly connected to their peer networks. They are, however, more prone to travel than others and, more importantly, they are opinion leaders to whom others look for models and advice. The 'early majority', accounting for about one third of the total, also have strong connections with peers, but are not themselves leaders. Nevertheless, they form the essential bridge between the innovators and early adopters, and the rest of the group.[60]

Roger's categories do not easily map onto a Pauline group, but they might yet have some salience. Of the persons mentioned in 1 Corinthians, Stephanas fits the pattern of an early adopter. He, along with his two slaves or freedmen, was able to travel, perhaps on business, and to meet Paul in Ephesus (1 Cor 16.17). Paul's commendation of him (1 Cor 16.15) suggests that Stephanas and his family were opinion leaders and strongly connected to their peer group. At least at the time of the composition of 1 Corinthians, Paul seems to regard Stephanas as the bridge between himself and the rest of the Corinthians.[61]

58 E. M. Rogers, *Diffusion of Innovations* (New York: Free Press, 1995[4]) 254–8. Most of the studies of innovation-adoption have been done on North American and European subjects, but Rogers reports a study on the adoption of agricultural innovations by Colombian peasants that followed the same pattern as that of Western subjects.

59 See Kloppenborg, *Christ's Associations*, 108–11: the mean size of a cultic association is 29.29 members.

60 Rogers, *Diffusion*, 263–5.

61 It is striking that in Romans 15, when Paul conveys greetings to his addressees, neither Stephanas nor Crispus is mentioned.

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Once a figure like Stephanas had adopted the new behaviour, and with the help of Paul, Apollos and their various his co-workers, others persons connected to Stephanas became susceptible. Whether Crispus and Gaius, whom Paul names before Stephanas (1 Cor 1.14), were also early adopters or innovators cannot be known, although Paul names them as if they might have been. Of course, the particulars of the diffusion of the Christ cult thereafter are invisible to us, but it evidently spread and may have become a small clustered network of several interrelated households, with some households 'activated' and others with members – in particular the spouses of some members – who were laggards. Fig. 9 offers a hypothetical model of the Corinthian network, subdivided into partisans of Apollos (A2–5), Chloe (C2–4), Stephanas (S1–5), Gaius (G2–5) and Crispus (C2–4), along with two spouses connected to members of the Christ group but not themselves members.

The other side of susceptibility concerns the affordances offered by the Christ cult – what would induce persons to adopt a new behaviour, and in particular a cult that entailed both possible reputational damage and behavioural costs?

If modern studies of conversion have any utility, it is to suggest that personal connections and affect are more important than the beliefs of the recruiting group. According to Rodney Stark, 'conversion is not about seeking or embracing an ideology; it is about bringing one's religious behaviour into alignment with that of one's friends and family members'.[62] Stark observes that the appeal of the beliefs of the recruiting group are secondary until after conversion, when retrospectively converts might report that they had been compelled by the obvious truth of the group's doctrines.[63] But this is not how they self-report while on the road to conversion. At that point they are more likely to say, 'Their beliefs are rather strange, but they are such wonderful people.'

62 R. Stark, *The Rise of Christianity: A Sociologist Reconsiders History* (Princeton: Princeton University Press, 1996) 15–21, at 16–17; *Cities of God: The Real Story of How Christianity Became an Urban Movement and Conquered Rome* (New York: HarperSanFrancisco, 2006) 8–13. One study cited by Stark, W. Kox, W. Meeus and H. 't Hart, 'Religious Conversion of Adolescents: Testing the Lofland and Stark Model of Religious Conversion', *Sociological Analysis* 52 (1991) 227–40, in fact concludes that in the case of Dutch adolescents, the appeal of a recruiting group is twofold, both 'ideological, by offering a new perspective on life, and social, by providing a satisfactory social network', although the overwhelming majority of new converts (80 per cent) had established affective bonds with other members of the group in the process of conversion.

63 Stark's model has been adopted in K. Eshleman's study of conversion to philosophy, 'Affection and Affiliation: Social Networks and Conversion to Philosophy', *CJ* 103 (2008) 129–40. In relation to Epicureanism, she concludes, 'it is worth observing that both the teachings and the social ties play a part in full conversion; it would certainly be wrong to emphasize social networking at the expense of ideological conviction. Yet to focus on ideology to the exclusion of social bonds, as is more often done, is to ignore a crucial component of the process by which people came into contact with philosophers' teachings and were convinced of their truth' (139).

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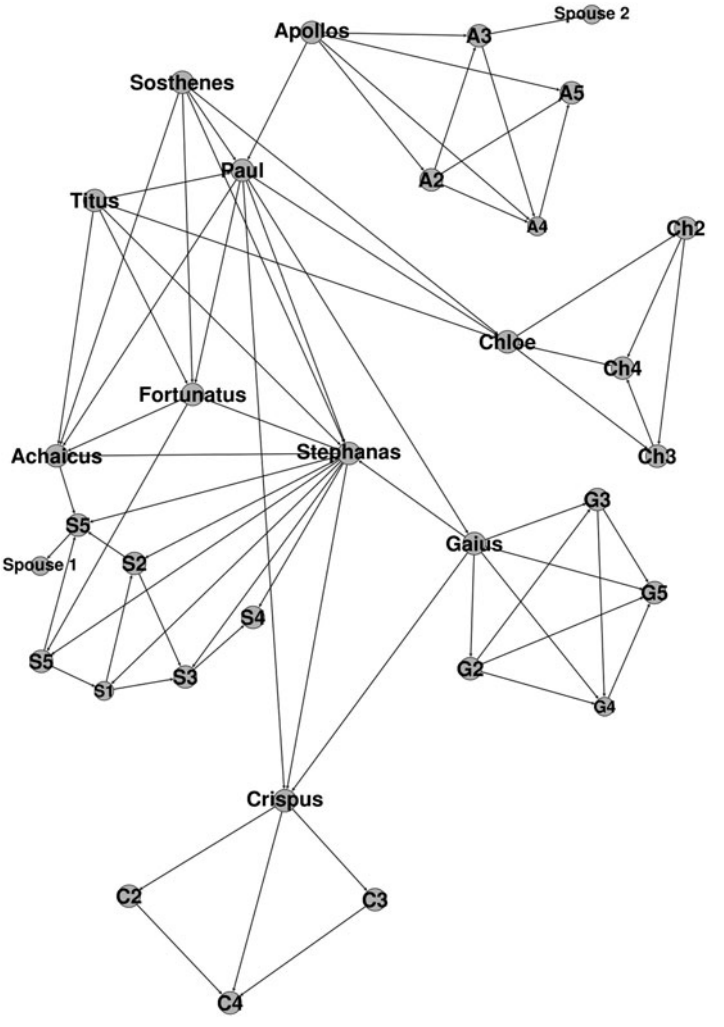


Figure 9. The Corinthian network

The various social affordances of membership in an association have been the subject of several recent studies. These provide at least a good place to start in thinking about the particular appeals of the Christ cult. I will mention three. Surely there are more.

First, both modern studies in evolutionary anthropology and the analysis of ancient associations have shown how small face-to-face groups serve to create what Andrew Monson has called 'networks of trust'.[64] Common to most ancient

64 A. Monson, 'The Ethics and Economics of Ptolemaic Religious Associations', *Ancient Society* 36 (2006) 221–38. See also P. F. Venticinque, *Honor among Thieves: Craftsmen, Merchants, and*

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associations is that they not only engaged in regular communal dining and other corporate activities such as processions and reverencing of their patronal deities, but they also imposed behavioural rules on members, for example requiring all to attend meetings, to participate in the funerals of members, to treat fellow members ethically, and to assist members whom they found in distress. Groups often undertook to guarantee support for members who had been arrested or suffered other misfortunes. Forms of antisocial and disruptive behaviour were penalised, either by fines or by the threat of exclusion.[65]

It might seem counter-intuitive to join a group that threatened fines or exclusion. But these were strategies to materialise a critical ancient value of *belonging*, which was also instrumentalised in the posting of membership lists, processions, communal meals and other practices. The imposition of behavioural rules on members meant that it was always safer to deal with a fellow member than anyone else, because one knew that the group enforced common ethical standards not only in domains that pertained to the association itself (meals, principally), but in all matters of conduct. A fourth-century association from Athens announced in its νόμος:

> And if a member should be wronged, [the *thiasōtai*] and all the friends shall come to his assistance, *so that everyone might know that we show piety* (10) *to the gods and to our friends* (IG II^2.1275.7–10 = *GRA* I.8; Piraeus, 325–275 BCE).

This is advertising. It is designed to underscore the benefits of membership and, presumably, to attract new members.

In an empirical study of more than eighty communes in the nineteenth century, Richard Sosis and Eric Bressler have shown that rituals and behavioural rules promote intragroup cooperation. Moreover, groups that imposed costlier requirements – either monetary or behavioural – survived longer than less demanding communes.[66] And communes that were religious also had an

Associations in Roman and Late Roman Egypt (New Texts from Ancient Cultures; Ann Arbor: University of Michigan Press, 2016); W. Blockmans, 'Inclusiveness and Exclusion: Trust Networks at the Origins of European Cities', *Theory and Society* 39.3/4, Special Issue in Memory of Charles Tilly [1929–2008]: *Cities, States, Trust, and Rule* (2010) 315–26.

65 Details in Kloppenborg, *Christ's Associations*, 151–9.

66 R. Sosis and E. R. Bressler, 'Cooperation and Commune Longevity: A Test of the Costly Signaling Theory of Religion', *Cross-Cultural Research* 37 (2003) 211–39. See also R. Sosis, 'Religion and Intragroup Cooperation: Preliminary Results of a Comparative Analysis of Utopian Communities', *Cross-Cultural Research* 34 (2000) 77–88 and 'Religious Behaviors, Badges, and Bans: Signaling Theory and the Evolution of Religion', *Where God and Science Meet: How Brain and Evolutionary Studies Alter our Understanding of Religion*, vol. I: *Evolution, Genes and the Religious Brain* (ed. P. McNamara; Westport, CT: Praeger, 2006) 61–85.

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advantage over secular communes, even when the latter imposed costly requirements on their members. These findings would appear to support the thesis that the behavioural rules that Christ groups imposed on their members not only cultivated a strong sense of solidarity but also contributed to their longevity. For those living in the dire conditions of an ancient city, membership in an association which provided a sense of belonging and worth, which offered forms of intimate sociality, and which promised support in the face of the vicissitudes of life, was not a negligible attraction.

Second, like the Sarapiastai mentioned above, Christ groups and a handful of other cultic associations traced the aetiology of their group not to the initiative of some founding member,[67] but to the god. Thus, Ptolemaios reported that it was Sarapis who had invited him to become ἀγορανόμος. The cult of Syrian goddess Atargatis, which in Athens and on Delos was inclusive of persons of a variety of ethnic and legal statuses, and was also gender-inclusive, also promoted itself as a group that the goddess herself had convened (συνήγαγε).[68] Paul's language of the god 'calling' (καλεῖν) members of Christ groups belongs to the same strategy. Although Christ groups did not have elite patrons who could lend social capital to membership, the notion that invitations came directly from the deity surely translated into social capital and a sense of privilege.

Third, Larry Welborn and others have recently argued that Christ assemblies embodied democratic practices insofar as they constituted themselves as 'a *politeia* in which members might pursue resolution of tensions arising from social inequality on the basis of the principle of equality "in Christ".'[69] This is not unique to Christ groups. Steven Payne has now assembled a database to show that despite the oligarchic encroachments on democratic practices, the ideals of

67 For example, *IG* II².1297.3–4 = *GRA* I.24 (Athens, 236/235 BCE): ἐπειδὴ Σώφρων καλῶς καὶ φ[ιλ]οτί|μως συνήγαγε τὸν θίασον ('since Sophron honourably and with public spirit had convened the *thiasos*'). See also *LSAM* 48.3–4 (Miletos, 276/5 BCE); *IG* II².1343 = *GRA* I.43 (Athens, 37/36 or 36/35 BCE); *IG* II².1369.25–6 = *GRA* I.48 (Liopesi, *ca.* 100 CE); *IG* II².1366.21 = *GRA* I.53 (Laurion, *ca.* 200 CE).

68 *SEG* 52.761.9–10 = G. Siebert, 'Sur l'histoire du sanctuaire des dieux syriens à Délos', *BCH* 92 (1968) 360 (Delos, 2nd cent. BCE): τὸ κοινὸν τῶν θιασιτῶ[ν] … οὓς συνήγαγε ‖ ἡ θεός ('the association of the *thiasitai* … whom the goddess has convened'). Similarly, *ID* 2225.3–5 (Delos, end of 2nd cent. BCE): ἀ[πὸ τῶν? θι]|ασιτῶν Ἀγνῆς Θεοῦ οὓς συνήγα[γε] ('the *thiasitai* whom she has convened'). See M.-F. Baslez, 'Entre traditions nationales et intégration. Les associations sémitiques du monde grec', *La questione delle influenze vicino-orientali sulla religione greca: stato degli studi e prospettive della ricerca* (ed. S. Ribichini, M. Rocchi and P. Xella (Monografie Scientifiche. Serie Scienze Umane e Sociali; Rome: Consiglio nazionale delle ricerche, 2001) 235–47, esp. 242.

69 L. L. Welborn, 'How "Democratic" Was the Pauline *Ekklēsia*? An Assessment with Special Reference to the Christ Groups of Roman Corinth', *NTS* 65 (2019) 289–309, at 309. See also A. C. Miller, *Corinthian Democracy: Democratic Discourse in 1 Corinthians* (Princeton Theological Monograph Series 220; Eugene, OR: Pickwick Publications, 2015) and J. S. Kloppenborg, 'Associations, Christ Groups, and their Place in the *Polis*', *ZNW* 108 (2017) 1–56.

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autonomy and a self-governing *ekklēsia* were still alive in the East well into the third century ce.[70] Small face-to-face groups provided concrete ways to instrumentalise the classical values of *isonomia* and *isēgoria*, the equality of citizens and the right of all to speak. The appeal of such 'fictive democracies' is not to be underestimated.[71] Democratic impulses, though limited, were not dead, and membership in these fictive democracies allowed members to imagine themselves as self-governing, to be able to decide their own affairs, to judge their own legal cases, to award honours and punishments, and to contribute to the collective good.[72] In a culture where belonging and connectivity were critical values, and where καλοκαγαθία – public-mindedness – was a prized virtue, small groups such as Christ assemblies created a space for the performance and realisation of virtue.

5. Conclusion

Network models prompt us to think more concretely about how the Christ cult diffused – not by unseen or miraculous means, but by the social mechanisms that are also critical in the spread of other complex contagions. Pliny would compare Christianity to an infection – *superstitionis istius contagio* (*Ep.* 10.96). Both the opponents of the Christ cult and advocates like Luke could depict the spread of the cult as though it were a simple contagion, the former to underscore

70 S. T. Payne, 'Spiritual Bodies and the Afterlives of Ancient Democracy in Early Paulinism' (PhD diss.; New York: Fordham University Press, 2019).

71 N. Jones (*The Associations of Classical Athens: The Response to Democracy* (London/New York: Oxford University Press, 1999)) argues that the rise of deme-based associations compensated for the de facto exclusion of most of the Athenian population from democracy. (With a citizen population of about 30,000, and an assembly that could hold at most 6,000 persons, the majority of Athenians from the inland and coastal demes were excluded from the practice of democracy). J. Ustinova ('Orgeones in Phratries: A Mechanism of Social Integration in Attica', *Kernos* 9 (1996) 227–42) has proposed something parallel, but at an earlier stage of Athenian history. Immigrants in the eighth and seventh centuries who were incorporated as citizens into the Athenian demes but not into the clans (the centre of cultic activity) formed cultic associations called *orgeōnes*, which were 'effective in liberating the immigrants from the sense of inferiority and defenselessness, both in the cultic and the social spheres' (241). K. Vlassopoulos ('Free Spaces: Identity, Experience and Democracy in Classical Athens', *CQ* 57 (2007) 33–52) and A. Gottesman (*Politics and the Street in Democratic Athens* (Cambridge/New York: Cambridge University Press, 2014)) have likewise argued that the formation of small groups in Athens provided alternative forms of sociality for those de facto excluded from Athenian democracy.

72 I have elsewhere argued that the Pauline collection for the poor, patterned on a civic *epidosis*, can be seen as a performance of citizenship in a fictive translocal polity that embraced not only the Pauline groups of Achaia, Macedonia and (perhaps) Asia, but also a non-Greek community in Palestine. See J. S. Kloppenborg, 'Fiscal Aspects of Paul's Collection for Jerusalem', *Early Christianity* 8 (2017) 153–98.

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the danger that is presented, and the latter in order to magnify its appeal and to advertise the power of its divine patron. But the spread of a complex contagion like the Christ cult is not as simple as an infection. It required persuasion, not simple contact, and in most cases multiple 'nudges' from network neighbours. This implies that the role of Paul's co-workers was much more critical in diffusion than is sometimes thought.

Second, network models also suggest that the schematic chronological picture of Acts, implying only brief stays in certain locales, needs to be adjusted. The Christ cult was not contagious in a single contact. Even though conversion stories like to compress time-lines in order to dramatize the power of the deity, the reality is that persuasion requires multiple 'nudges' and contact of some duration. Weak links are fine for simple contagions, but it takes much longer to effect and maintain behavioural innovations.

Third, a convincing model of the diffusion of the Christ cult needs to hypothesise one or more local networks through which the cult diffused. Such networks are created in a variety of ways, through spatial contiguity, family relations, occupational connections and commercial links. Moreover, each cult had its own ecology – the particulars of what it needed to survive and propagate – and each needed receptive recruits who were in a position to respond positively to the affordances of the cult.

The study of ancient cultic associations coupled with network theory provides us with heuristic models to let us think more concretely about how the Christ cult spread in the period prior to Constantine.[73]

73 I am grateful to Ms Christina Gousopoulos, who has assisted me in producing the network visualisations in this paper.

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