

Transient Solidarities: Commitment and Collective Action in Post-Industrial Societies

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Abstract

Solidarity has long been considered essential to labour, but many fear that it has declined. There has been relatively little scholarly investigation of it because of both theoretical and empirical difficulties. This article argues that solidarity has not declined but has changed in form, which has an impact on what kinds of mobilization are effective. We first develop a theory of solidarity general enough to compare different forms. We then trace the evolution of solidarity through craft and industrial versions, to the emergence of collaborative solidarity from the increasingly fluid ‘friending’ relations of recent decades. Finally, we examine the question of whether these new solidarities can be mobilized into effective collective action, and suggest mechanisms, rather different from traditional union mobilizations, that have shown some power in drawing on friending relations: the development of member platforms, the use of purposive campaigns and the co-ordination of ‘swarming’ actions. In the best cases, these can create collective actions that make a virtue of diversity, openness and participative engagement, by co-ordinating groups with different foci and skills.

1. Introduction

In the last 30 years, there is every evidence that labour solidarity has weakened across the industrialized world. Strikes have widely declined, while the most effective recent movements have been fundamentalist and restrictive — turning back to traditional values and texts, narrowing the range of inclusion. Political movements have undermined the liberal (USA) and Social-Democratic (Europe) consensus, which included a robust role for labour (Callaghan *et al.* 2010; Cramme and Diamond 2012). Although the theme song of labour in America says solidarity is forever, labour leaders

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now commonly lament its decline. In effect, they echo the many social critics who see a general weakening of social connectedness over the last half century.

We try in this article to understand changes in solidarity. More specifically, to anticipate our conclusions, we hope to show (a) that labour solidarity has declined because its base in workplace relations and value commitments has eroded; (b) that emergent trends have created the conditions for a new, *collaborative* form of solidarity that builds on extended expressive relationships; and (c) that effective mobilization tactics for this kind of solidarity are different from those used by labour to date. They require the development of organizational platforms rather than hierarchies, the crystallization of purpose and the mastery of collective action as co-ordinated 'swarming' rather than massed confrontation.

Solidarity has been rather neglected as an academic topic because it is very hard to analyse: there is little understanding of how it is created or how it has changed. In an increasingly positivist academic climate, studies of it have become scarcer. Research on union activity has been largely synchronous or short term, assuming an essentially stable situation and trying to establish the impact on it of one or another factor. This is not very useful in trying to think about long-term trends in which the context changes fundamentally, and therefore not very useful in understanding the current crisis, in which the entire framework of labour relations is in question. A careful review of the literature in 2008 concluded:

. . . [t]o fully account for variation in union formation, including the conditions under which it occurs and how it occurs, it may ultimately be necessary to adopt a broader perspective, one that addresses the importance of institutional environments, norms, and traditions in accounting for the behavior of the parties (Godard 2008: 395).

We aim to assess and explain the state of labour solidarity in this broader perspective, to show how it can be modified and shaped, and to understand emergent trends that affect the possibilities for the future. Much of our evidence will be drawn from the USA, but our claims are broader: these trends are characteristic of advanced industrial capitalism, not of any single country.

2. A theory of solidarity

Within the labour relations literature, there are many references to solidarity but practically no theoretical treatments.¹ Much industrial relations scholarship has abandoned the concept altogether, and tries to explain mobilization and unionization on the basis either of individual propensities or of empirically visible contextual factors like labour law and political conditions. In general sociology, a number of efforts to develop positivist theories, either on rational choice or network structure lines (Doreian and Fararo 1998; Hechter 1983; Markovsky and Lawler 1994), have proved unsuited to capturing

broad historical trends and have not helped in understanding the apparent long-term decline of labour solidarity. Such approaches, seeking to focus on testable propositions, define solidarity in ways that are considerably narrower than usual usages, and they studiously avoid problems of historical context.

We need a definition of solidarity broad enough to admit the possibility of new forms. Although the focus tends to be on strikes and other mass conflicts, these have been far from the only expressions of solidarity in the past, nor are they necessarily central to its future. Other crucial types of solidarity include mutualist nineteenth-century co-operatives, union-based institutions of social support, and the craft institutions of apprenticeship and self-management. They also should include more recent movements based on assertions of social identity, such as race and gender, which have had a deep impact on workplace rights.

We will define solidarity broadly, therefore, as a communal sense of obligation to support collective action. The collective action can aim at advancing the group's collective interests and purposes, or at broader social change. *Labour* solidarity is the subset focused on collective action around work. That definition gets at issues that are significant for labour movements. It also both encompasses various types of solidarity in the past, and leaves room for the possibility of new ones in the future.

Solidarity in this definition is based in community: it defines what you are supposed to do when your community engages in collective action. Multiple forms of solidarity are defined by the nature of these obligations. This includes to *whom* the duty is owed — whether to workers as a whole, those in some particular industry or craft, a local region, etc.; and the *content* of the obligation: respecting picket lines, buying only union products, protecting craft rules and so on. Solidarity is, in effect, a set of 'rules of the game' defining what people expect of each other. For that reason, the form of solidarity shapes the nature of the collective actions that may emerge from it.

In this meaning, solidarity implies more than a shared point of view. People sometimes act in concert because they see things from the same perspective — based on common interests, empathy or values — without feeling the mutual obligations to each other that characterize solidarity. Actions based in mere common perspectives or interests are unstable and usually brief, vulnerable to fragmenting pressures, and with little leverage for maintaining unity. The advantage of *obligation* for collective action is that it provides a stronger glue, holding people together even when they are not perfectly aligned individually. Solidarity gives movement solidity and flexibility, the ability to call on sacrifices beyond what an individual would do alone.

Two Pillars

The main source of solidarity is in daily social relations — ties to other people, usually forming a defined group, with emotional connections and

reciprocal obligations, in which reputation is very important and shaming an effective sanction. Any union organizer knows that tapping into already-existing communal bonds is the best path to success, because they are motivationally powerful, and qualitative research has repeatedly emphasized the importance of this factor (Bakke 1946; Fantasia 1989; Seidman *et al.* 1951).

These relations by themselves do not generate collective action. They must be supplemented by moral appeal, or ideology, which focuses these daily obligations on a shared cause. Ideologies involve definitions of value (good and bad), enforced through internalized mechanisms of commitment and guilt.² *Effective* ideologies are universalizations of the actual relations or communities to which they appeal. That is, they draw from an existing community an image that claims broader ‘goodness’, abstracting the key qualities as a basis for a vision of a future society.

We illustrate these general points with a brief review of two fundamental solidary forms — craft and industrial. These are not the only forms, of course, but they have historically been dominant in the labour arena, linked to corresponding forms of unionism.

Craft Solidarity

Craft solidarity is based on strong and self-sustaining occupational communities. Crafts, with roots in medieval guilds, have firmly established status orders, criteria for entry, sanctions and mechanisms of self-governance. Relations are relatively tight, personal, stable and continuous. The sense of community is not based on opposition: in many cases, managers are part of craft unions. They can be very long-lasting and resilient: some craft orders have continued without great change for centuries. They generally extend beyond mere workplace relations, sometimes encompassing the entire way of life for families and localities, from birth to death.

The ideologies that effectively mobilize craft communities are those appealing to its core characteristics: they propose a universalization of a way of life that is artisanal, independent, personal and locally self-governing. In the simplest forms, they fight to preserve these relations for the current group, but more expansive crafts-based movements claim that these qualities are *generally* good for people and societies. In this form, they appeal to many groups fearful of the encroachments of modern commercial and bureaucratic institutions, and thus can become the basis for wider alliances.

This kind of solidarity sustains a decentralized and communal form of collective action. Each local unit has very rich ‘rules of the game’ and a definition of a valued ‘way of life’ embedded in strong existing relations. These communities can sustain flexible and long-lasting movements oriented to protecting or extending that way of life. When there are many local communities with similar views, as if the case with long-lived crafts, they may unite into larger federated movements while maintaining strong local self-government.

Craft communities began to decline at least as early as the beginning of the twentieth century; their communal institutions had difficulty in adapting to managerial and technological changes. They have been driven back from one arena after another — including one of the oldest, that of printing. They remain effective today only in a small set of industries that are not effectively organized by mass production management and where skill requirements can be protected by communal apprenticeship systems. The ideology of craft self-sufficiency retains some attraction to those who feel overwhelmed by the complexity of modern life, but it has become less credible as an image of a good society as more people recognize their dependence on broad-ranging commercial and cultural networks.

Industrial Solidarity

The relational base of *industrial* solidarity is in the more contingent relations of the factory. It emerged as industrial production created large groups of workers in single locations, and in large industries with visible centres. The central difference from craft community is that relations in industrial settings are not self-contained or self-governing. It is the management that defines the workplaces, selects the workers and tells them what roles they are to play. Thus, norms among workers are far less elaborated than in the craft world. Independent mechanisms of worker self-governance are virtually absent. Industrial unions have generally had much lower rates of ongoing member involvement than craft unions, and they have relied much more on bureaucratic structures to link members dispersed across geographies and plants. Members have been active only to the extent that there has been a strong basis in workplace relations (Anderson 1979; Strauss 1977: 222).

Solidary industrial actions are, therefore, harder to manage and sustain than those based in craft relations. Collective action must be built around the one strong common obligation, standing together against management, and it must focus on a few simple demands shared by all. Leaders wrestle constantly with how to mobilize members without losing focus. It is often hard to generate a wide sense of commitment to action, and even harder to steer that action when it does emerge. Thus, industrial actions are most effective when they take the form of rather brief mass outbursts. On the other hand, since industrial solidarity does not rely on elaborated face-to-face institutions and status orders, it can extend to a wider scope. It can mobilize more people, but for narrower goals.

It has also proved difficult to build a coherent ideological vision for industrial solidarity. While the craft vision is embodied in an existing way of life, the industrial vision is more abstract. Images of self-managed factories or communes have sometimes played a role in mobilization, but there have been too few concrete examples to sustain it. Communism motivated some intellectual leaders, but did not seem relevant to the experience of most factory workers.

The dominant ideology that emerged over time, to the dismay of radicals, was one that did connect to real experience: a vision of a balance of power, of a wall of rights limiting management abuses without challenging the fundamental need for managers. This was an ‘improved’ vision of the everyday experience of the shop floor, where the sense of intrusion by managers — industrial engineers and supervisors — on the working group was experienced constantly. This ‘business unionism’ became more elaborated as contractual patterns were worked out in successive conflicts.

The relations of mass production at the base of industrial solidarity have eroded in advanced economies. On the relational front, large factories — stable workplaces with many semi-skilled occupations — have been greatly reduced as companies have moved to more decentralized and flexible production spread across global value chains (Adler 2003; Huws *et al.* 2009; Piore and Sabel 1984). There has been clear movement to fragmentation of workplaces, with fewer workers in large factories. Workplaces are also much more dispersed internationally, with the same work often being done in multiple countries. Routine semi-skilled work is being replaced by automation (Autor *et al.* 2003). Although the move is slow and far from universal, from a broad perspective it appears to be inexorable. All this has greatly reduced the ‘factory’ experience of large masses of workers faced with visible bosses, and has thus weakened the relational basis for industrial solidarity.³

On the ideological front, the balance-of-power, rights-based vision that legitimated industrial solidarity retains some credibility, but it too has been significantly eroded by a set of values that emphasize self-expression and respect for diversity (Delhey 2010; Yankelovich 1994). These have been the focus of a rather different set of recent movements discussed below.

Class and Solidarity

Marxism and many variants have had a conception of class solidarity that would unite workers broadly around a common vision of a society controlled by workers. This has never been sustained in practice. The revolutionary movements of workers have not been solidary, while solidary movements have not been revolutionary. This has been a source of frustration to radical intellectuals for two centuries.

The revolutionary movements from 1789 through 1870 were movements of common perspective with weak solidarity. They were moments at which many people thrust into objectively similar situations were catalysed into action, but they had few traditions of community or self-governance among themselves that could be a foundation for a continued sense of unity and mutual obligation. Thus, these movements took the form that Mann (1973) has called ‘explosions of consciousness’: they emerged suddenly and receded nearly as fast, rapidly disintegrating into factions with different perspectives.

A consequence of lack of solidarity is that these class explosions strayed quickly from visions of worker-controlled societies. The Paris Commune

came the closest but only for a very brief period, and with solidarity only among a small minority.⁴ In most nineteenth-century movements, it turned out that solidarity lay with the forces of reaction rather than with the working class. That is, the former had a clearer collective idea of what they wanted and a stronger base in actual relations; they held together better and pursued a more consistent path, and generally won, at least in the short run.

Later movements, especially the general strikes of the interwar period, were more solidary, but essentially industrial in form. They united many groups that were developing industrial organizations, and they pursued the vision of limiting managerial power by erecting barriers of formal rights — of creating, as it were, an idealized factory relationship, rather than a workers' society.

Today, some anticipate the emergence (or re-emergence) of class solidarity because of the dramatic rise in inequality in recent decades. Paradoxically, this view makes the same limited assumption as that of neoclassical economists, although from a sharply different political viewpoint: that people will follow their interests. It presumes that the sense of obligation and commitment will emerge automatically and inevitably among people in the same objective situation. Yet inequality has never led reliably to class solidarity; it has, on the contrary, often generated right-wing and fundamentalist movements, including fascism. The most intense solidary responses to recent economic disturbances have been around nationalist or religious identities.⁵

There is, moreover, much evidence that the class structure — despite the growing income gap — has become more complex rather than clearer: rather than polarizing, as Marx predicted, relations have pluralized. Eric Olin Wright, the premier scholar of class, has found 'a trajectory of change within developed capitalist societies towards an expansion, rather than a decline, of contradictory locations within class relations' (Wright 1997: 66). Progressive movements, such as the 'new social movements', have generally emphasized non-class links, either of social identity — racial, gender, sexual — or political purpose, notably environmentalism.

Ideologically, socialist visions of all kinds have been sharply undermined since the fall of the Soviet Union. Meanwhile, there has been a sustained rise of individualist and expressive ideologies, again across many countries (Inglehart and Oyserman 2004).

For these reasons, despite stagnant or declining fortunes for the bulk of citizens throughout the advanced industrial world, no large-scale movements with anything like a class shape have occurred recently in any of the advanced industrial economies. A considerable segment of the working class has moved instead in a conservative direction. Thus, while an explosion of consciousness is always possible, and hard to predict, the conditions for class *solidarity* have weakened in the last half century.

Changing Communal Foundations

Does the current weakness of collective action mean that people have withdrawn from community, into some sort of amoral individualism, or does it

mean they are forming different kinds of communities? Have all bases for solidary action eroded?⁶

Some social-capital theorists have indeed argued that the sense of community has declined in general. Robert Putnam has documented the decline of stable local relations, whether at the dinner table or in bowling leagues (Putnam 2001). There are also good data, especially from the General Social Survey, that primary, 'strong-tie' social networks — local communities and member associations — have been narrowing and fragmenting (McPherson *et al.* 2006: 353). And there has been a long and deep decline of confidence in large institutions, including labour unions, throughout the industrial world (Harris Interactive 2005).

But although familiar relations have declined, relationships *in general* have not. On the contrary, we are in the midst of the largest expansion in communications since the invention of the printing press. Ordinary people are now engaged in a wider variety of connections than ever before. At the same time, this very complexity and breadth means that many relations are more transient or contingent. The implications for solidarity have not been well understood.

Although people seem to have withdrawn from many types of familiar groups and express increasingly individualist values, they also engage in a great deal of sociability and joining. The most careful analysis of the longitudinal data from the General Social Survey concludes that since the 1970s there has been a gradual increase in *weak* ties: that is, in the number of people who were members of multiple types of groups (Baldassarri 2008).

A Cohesive Small World: The Complexity of Weak Ties

The classic shape of social relations, as documented by many network studies, is the 'small world'. In this pattern, which in different forms characterized both craft and industrial communities, most people connect only within one, or perhaps a few, small groups; these ties are strong, and generally entail deep loyalties. These groups are linked into larger societies by a much smaller number of 'bridgers' who are part of multiple groups. This social organization allows most people to remain in familiar and stable local networks, yet also enables efficient integration across large societies.

The classic small-world structure creates a sharp distinction between 'locals' and 'cosmopolitans'. Most people are locals, with clear identities built around a very limited number of loyalties. Cosmopolitans are unusual: they have rare skills in being part of many different strong-tie groups. At the same time, they are not quite a full part of any group: their loyalties are divided, and they need to incorporate identities that locals may see as contradictory.

What has happened over the past century is a gradual 'thickening' of the classic small world by the multiplication of weak ties: ordinary people, not just cosmopolitans, have acquired more connections. The telephone made it more possible to maintain some connection with distant friends and relatives. The mass spread of the automobile allowed ordinary people to travel out of their localities and to experience diverse cultures. Television created one-way,

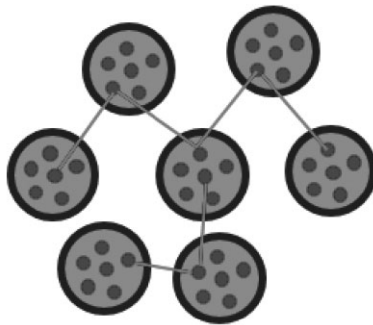
but nevertheless powerful and emotional, connections with people very different from the immediate family and neighbourhood. The rapid spread of higher education in the USA after the Second World War also took substantial proportions of youth out of their local communities and exposed them to diverse values and worldviews.

Now the Internet has accelerated the spread of weak ties to an extraordinary degree. The numbers are dizzying. In 2008 Facebook, which can serve as the emblem of this move, was a niche company that most people had never heard of. Six years later, over 1.3 billion people all over the world sign in at least once a month. They have a median of well over 100 ‘friends’, and younger people (between 18 and 24) have over 500. For the developed countries, the numbers are even higher: in USA and the UK, about *40 per cent of the entire population* sign in to Facebook on any given day. And this does not even take into account connections on the many other rapidly growing social platforms.

The number of connections maintained by ordinary people — not just the cosmopolitan elite — is thus vastly higher than a few decades ago. The structure of society has moved from a classic small world to what some colleagues have called a ‘*cohesive small world*’ (Torrents and Ferraro 2010): although there continue to be small groups with strong ties and loyalties, most people also have many ‘weak-tie’ connections beyond those, extending across boundaries of nation and race. Or to put it another way: we are all cosmopolitans now.

It may be helpful to use the kind of picture that the network field has developed for mapping relationships. The classic small-world structure looks like this (Figure 1):

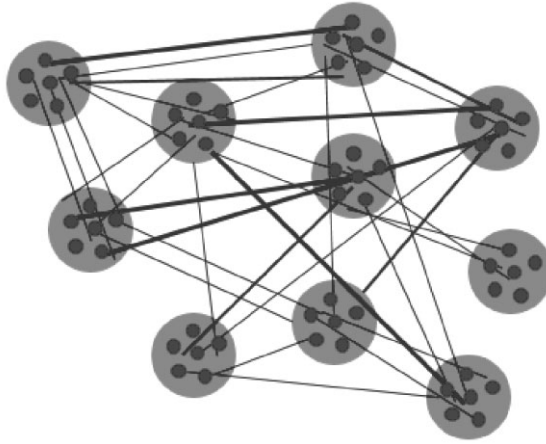
FIGURE 1
Small world network.



In this classic small world, loyalties are strong and linked to tight groups, mostly local. Solidarity appeals primarily to these groups.

In a cohesive small world, by contrast, most people juggle multiple independent loyalties. Local groups are less bounded and stable, but they are also less isolated. It looks more like this (Figure 2):

FIGURE 2
Cohesive small world network.



This is the diverse, ambiguous, fluid world described by Giddens (1991), Beck (2006) and Zoll (2001) — a massive transformation in relations, at least as large as the large-scale move from agriculture to industrial life a century ago. But the implications are poorly understood. A considerable chorus of commentators are suspicious of it, suggesting that these new relations are in some sense bad: shallow, weak, narcissistic, uncommitted (Marche 2012; Sennett 2012; Turkle 2011b; Twenge 2007). They fear that their children will lose the capacity for true social interaction — whether ‘true’ is defined from the left, in terms of committed activism, or the right, as moral dutifulness. Traditionalists naturally reject, with intensity and passion, the lack of a stable moral centre, while those who engage in the fluidity of social media see traditional visions as narrow and intolerant. A considerable amount of the heat around the ‘culture wars’ comes from this clash.

Although research is still just starting to catch up to the phenomenon, it does not, on the whole, support the more pessimistic views of the new world. The basic thrust of findings so far is that relations have become not lesser but more complex, and people’s loyalties have not vanished but pluralized. The growth of weak ties has not undermined strong ones, but it has complicated them.

Actual research on the multiplication of weak ties began well before the rise of social media: it has been central to the network field since at least the 1970s (Granovetter 1973). Wellman (2004), one of the most thorough students of the development of online relations, finds that even in the early 2000s, the growth in this kind of connection was emerging as an important part of the online world. In contrast to both group and local solidarities, he finds, Internet-mediated structures form rich and shifting patterns of both local and global ties. Social media have merely raised the profile of the change and made research on it much easier.

Key findings of research on the growth of weak-tie relations include the following:

- Social media engagement supports and supplements, rather than undermining, personal (offline) relations. There is no evidence that people are widely *replacing* face-to-face connections with online ones; they are *adding* new ones (Hu *et al.* 2004; Lampe *et al.* 2006; Miller 2011; Rainie *et al.* 2011; Wellman *et al.* 2001).
- Weak ties in general, including social media ties, increase ‘bridging capital’ — links across groups (Ellison *et al.* 2007; Steinfield *et al.* 2008) — which has many positive effects on social capital: it increases generalized trust, flexibility and innovation, learning, and openness in general (Pan 2012; Stolle 1998; Wollebaek and Selle 2002). Weak ties also encourage wider engagement among people who are not naturally outgoing (Steinfield *et al.* 2008), and make it easier to reach common ground among differing views (Steinfield *et al.* 2013).
- Despite fears expressed by some commentators, these links have not encouraged withdrawal into homogeneous, conflict-avoiding cliques. The level of diversity of ideology and other characteristics is at least as high as offline relations, and there is a mild tendency for new communities, online and off, to be more diverse and more tolerant than face-to-face analogues (Gentzkow and Shapiro 2010; Goode 2007; Pan 2012; Park 2008).
- Evidence of the relation between weak-tie engagement and civic activism is mixed, but overall does not support the view that the weak-tie links (such as social media usage) reduce social activism (Boulianne 2009; Malka *et al.* 2012; Quintelier and Vissers 2008); some find a positive relation (Garber 2011; Rainie *et al.* 2011).

The implications for solidarity are major. Both craft and industrial solidarity relied heavily on simple bounded ties — either in closed occupational communities or on the factory floor. These were often built through federations into ‘small world’ networks, but the dominant source of obligations and loyalty for most people remained centred on stable local and face-to-face connections.

Loyalties and obligations in a *cohesive* small world are not reduced but scrambled. It is not that people do not feel strong connections; it is that they connect in many ways to multiple groups that do not necessarily harmonize. The other members of those groups are also linked in many different directions. Strong-tie groups are also likely to be less stable over time, as members explore different avenues, which makes it more difficult to cement support through patient-organizing drives.

‘Friending’ Relations

Relations based on the increasing density and complexity of cross-cutting ties and the deliberate construction of identities have been growing since at least the 1960s, in ‘new’ communities including communes, consciousness-raising

and self-help groups, and deliberate intercultural dialogues. Social media have enabled their rapid expansion. These relations seem to many ambiguous and confusing because they blur familiar lines between personal and impersonal, public and private spheres. The most general term for them might be one taken from Facebook: *friending*.

Friending relations resemble traditional friendship in that they are voluntary, egalitarian and expressive, but they greatly widen the scope. Traditional friendship is seen as a very tight relationship, involving very few people, generally very similar to each other. Friending relations extend much further; they value openness and diversity rather than tightness and closeness.

The most troubling aspect for many observers is the public 'sharing' of personal emotions. What used to be private among friends and family is now widely broadcast and discussed. This is again an amplification of a longer trend: many sociologists have noted an expressive turn starting in the 1960s (Castells 1997: II; Habermas 1981; Parsons 2007: 45ff.; Taylor 2007). Now, people are expected to express deep feelings and beliefs not just with friends — small, intimate circles of sustained and close relations — but increasingly with 'friends' — the extended circles on Facebook and other social media.

This exposure certainly carries risks, but also enables the development of identities capable of managing complex and shifting networks of relations. This was already anticipated a century ago by theorists such as Mead (1934) and Simmel (1964), and has now become a central theme of postmodern theories of fluid and 'intersectional' identities (McCall 2005; Somers 1994). For wide swaths of society — not just a few cosmopolitans — identity is no longer given from an early age by embeddedness in a community; it is constructed through long, perhaps lifelong, interaction with multiple collectivities. Through these wide personal and cultural exchanges, people develop many differing types of commitment to many different communities. Social media users conduct, in Turkle's term (2011a: 29), 'identity workshops', trying out different versions of identity in different settings in a way that was impossible in the tighter realms of the classic small world.

All this has complicated effects on solidarity. Friending relations greatly broaden the *understanding* of others, especially those outside one's local community. Rather than merely 'tolerating' differences, these networks seek to develop empathic understanding as a basis for deeper communication. A great problem for solidarity, on the other hand, is that commitments are less reliably rooted in concrete communities. As a result, frienders are less predictable in their response to calls for social action.

Who are these 'frienders'? How important a phenomenon is it? Is what we have described characteristic mainly of the young ('millennials') or the geeky? It is of course difficult to pin this down, but there is evidence that this orientation has spread widely. As we have noted, well over than half the population of the advanced industrial democracies participates to some significant degree in social media discussions. Large numbers of people also engage in various kinds of self-help groups in which they share personal

feelings as a way of exploring their own identities; many of these, interestingly, occur in formally religious contexts (Wuthnow 1994).

We have conducted a national (USA) random-sample survey trying to get at the nature of relations and ideologies. The conclusion, to be very brief, is that about 35–40 per cent of the population scores high on a distinctively ‘friending’ factor that combines emphasis on diversity, broad understanding and openness. Over 40 per cent agree that ‘I like to participate in many groups so I learn more about myself’. About 40 per cent say they are ‘active in internet-based discussions’. There is almost consensual acceptance of the importance of understanding and expressing feelings. These orientations are favoured slightly more — but only slightly — by younger and more educated people. Importantly — and somewhat surprisingly — these frienders are not opposed to the mainstream: they are *part* of it, although a distinct current. That is, along with openness and strong diversity, most also embrace a more conventional modern factor emphasizing hard work, personal responsibility and family loyalty.

About 25–30 per cent of the population, on the other hand, vehemently rejects the friending orientation, scoring high on a quite distinct factor that emphasizes devoutness and moral purity. So the picture, as one might expect, is a polarized one, but the friending orientation seems to be larger than the reaction, more connected to mainstream values, and widely spread through ages and classes.

The ‘New Social Movements’ and the Cultural Turn

The ‘new social movements’ based in social identities that have drawn such attention since the 1950s have been deeply affected by this evolution. They began with a focus on extending rights of oppressed groups — a variant of industrial solidarity. Many expected them, in the 1970s and 1980s, to emerge as the new centre of confrontational mass action.⁷ Yet they have not stabilized as primary bases for solidarity, and have not drawn together as consistent and powerful drivers of collective action.

By the 1960s, they had already begun to morph into something quite different from rights-demanding solidary groups. The ‘black power’ emphasis on collective pride, and the ‘consciousness-raising’ groups that emerged in the women’s movement, shifted the focus to the *development of identity*, both individual and collective.

Solidarity of the mass or industrial type draws on stable identification of an oppressed group in contrast to an oppressor. This clear line is eroded by intersectionality and emergence: the group no longer reliably defines the self and the obligations of solidarity. Gamson (1995) sees identity movements as necessarily unstable: indeed, they want to subvert the very *idea* of stable identity — to see it as a choice, always being constructed. He identifies a ‘general predicament of identity politics, whose workings and implications are not well understood: it is as liberating and sensible to demolish a collective identity as it is to establish one’ (p. 402).

New social movements have generally pursued this path through the political to the cultural (Habermas 1981; Lichterman 1999). Movements of the disabled and gays, like earlier ones of blacks and women, have initially formed around demands for collective rights for a defined group, but have then begun to question the nature of the group — moving on to increasing exploration of complex identities and understandings. The solidarity of identity groups is undermined by cross-cutting loyalties, intersectional identities and the focus on expressive learning.

3. Towards collaborative solidarity: mobilizing friending relations

This friending type of social relation, with intersectional identities and commitments, is outside the frame of the labour tradition, industrial or craft; indeed, it is beyond most conceptions of community and solidarity and is viewed with suspicion by those who favour more established relations. It may seem impossible to build collective action on these shifting, multilayered, systematically self-deconstructing relations.

Yet there are many movements, both online and off, that have built on this relational foundation. The most common are helping campaigns — support for victims of disasters or for individuals with dramatic stories — building on the general widening of empathy facilitated by online sharing (Arnsperger and Varoufakis 2003). These are only weakly solidary; they are based on explosions of common empathy with little sense of mutual obligation. Some, however, are developing a sense of mutual obligation around social change. Although most of these are immature, and many are outright failures, they have been developing fast.

Occupy is one case that has gotten at least to the adolescent stage. It has operated like a giant commune; relations are created quickly, yet with a high level of personal expressiveness and sharing. Its ideology has universalized the values of diversity, openness, participative engagement and expressive sharing (Calhoun 2013). Despite its ‘99 per cent’ rhetoric, it has emphatically not been a class movement in the Marxist sense: it has raised the issue of inequality but determinedly avoided mass conflict. Occupy certainly manifests weaknesses as well as strengths: it has never coalesced around a political agenda that might drive real change; its main effect has been a more amorphous cultural one of creating symbolism and spreading awareness. Since its emergence in 2011, it has splintered into many actions of widely differing types, with no central co-ordination.

Other cases have progressed considerably further in organization. The most effective have been built around the purpose of protecting the open Internet — from the movement to democratize the ICANN process, key to Internet governance (Klein 2001), to the battle against the SOPA (the Stop Online Piracy Act) in 2011–2012. These have been able to sustain and co-ordinate complex actions over time, and they have had significant success in shaping the web, often against the pull of large corporations. There have

also been some significant efforts around a variety of global social issues (Waddell 2006); in the environmental arena, an increasingly complex network is developing that transcends boundaries of place and nation (Bentrup 2001; Steins and Edwards 1999). A few actions come relatively close to the workplace — for example, online student groups supporting Living Wage efforts (Biddix and Park 2008), or some successful campaigns co-ordinated by *coworker.org*.

From this array of developed movements built on friending relations, we will sketch one in more detail: the Mozilla movement, organized around maintaining an open and active web.

The members of the Mozilla community are organized around a mission addressing a contentious social issue of enormous import for the future of the society — who will control the Internet:

At Mozilla, we're a global community of technologists, thinkers and builders working together to keep the Internet alive and accessible, so people worldwide can be informed contributors and creators of the Web. We believe this act of human collaboration across an open platform is essential to individual growth and our collective future.

This pits them against a set of powerful corporations that try to establish monopolies over various aspects of Internet communication, and to move users into more passive roles as consumers.

The actual organization of collective action around this mission would seem foreign to anyone looking for formal authority structures, impressive headquarters or mass marches. The Mozilla Foundation plays a key leadership role but has no formal power. It creates platforms available to everyone for creating events around the basic mission — and one can find hundreds of events planned all over the world in the coming months, from Canada to South Korea, Bolivia to Jordan.⁸ They are co-ordinated by 'reps', also with no authority, who keep online journals of their activities and events they create. Every year, there are several 'Mozilla Festivals' bringing together coders, students, researchers and others for several days, with a focus on actually creating new web codes and capabilities.⁹

'Toolboxes' enable people to use the Web actively, rather than merely as consumers — tools to easily inspect and remix the code behind web pages, to build new pages, to create video and audio 'mashups'.¹⁰ A key foundation is an interactive writing tool called 'Etherpad', which provides an extremely simple platform that any person or group can dive into to quickly create new projects and organize discussion networks.

Mozilla also participates in collective actions beyond its own membership. In 2012, for example, it was a leading player in raising objections to the Anti-Counterfeiting Trade Agreement proposed in the European Parliament. Publicity and lobbying were supplemented by the mobilization of web activists in dozens of marches across Europe, which is thought to have had a significant effect — in any case, the act was defeated.

Mozilla and others of this type pursue the core ideology, on strong moral beliefs implicit in friending relations. They are *open* — the barriers to membership are low. They are committed to *diversity* — particularly in terms of interests, capabilities and geography — and they actively make use of that diversity as a way of generating new initiatives and exchanging knowledge and value. They are *engaging*: they ask for far more than checkbook support, and even more than general support for key causes — they expect members to create independent initiatives and projects. Moreover, they are, to a considerable degree, *effective*: they have proved able to bring members together in various combinations to achieve collective objectives both large and small.

The solidarity that they draw on — the sense of obligation and motivation for collective action — is not essentially oppositional: Putnam *et al.* (2004: 286) note, ‘we were surprised to notice that in many of our cases . . . it is virtually impossible to discern any enemy at all against whom the organizers sought to rally support’. Nor is it based on closed and tight communities; it has much diversity and fluidity. It is a sense of obligation not to a concrete group, but to a shared purpose; activists feel an obligation less to a concrete group than to creating solutions to common problems.

We do not propose Mozilla as a finished model. It has been better sustained than most collaborative movements, but it is still quite small and very much in a period of rapid experimentation. Its leaders do not feel they have cracked the code. They believe there are many failures still ahead, and still much to be learned in mobilizing and organizing movements of this type.

Collective Action: Swarming

Collective action emerging from friending relations does not usually unite as a mass around a single kind of action, like a strike or a march. Its natural form is one in which many groups operate independently, following their own ideals and identities, but organize around a broad common purpose. Thus Occupy did not march on Wall Street, but conducted a kind of guerrilla theatre with an emphasis on symbolism; Mozilla’s main focus is to give members the tools and inspiration to pursue their own ideas on transforming the Internet.

This distinctive form of collective action has been evocatively named ‘swarming’ by the Rand Institute (Ronfeldt and Arquilla 2000). This term was originally developed in a military context to capture a fundamental shift in strategy, from ‘brute force massing’ to more nimble forms of engagement:

Swarming — a seemingly amorphous, but deliberately structured, coordinated, and strategic way to strike from all directions, by means of a sustainable pulsing of force and/or fire, close-in as well as from stand-off positions — will work best, and perhaps will only work, if it is designed mainly around the deployment of myriad, small, dispersed, networked maneuver units (Ronfeldt and Arquilla 2000: 45).

As the RAND authors stress, swarming can be extremely effective but is difficult to manage: it depends not only on a strong infrastructure of

communication but also in changes in attitudes and organization. 'Moving toward swarming', they argue, 'is going to be more a function of cultivating an appropriate turn of mind and a supple, networked military form of organization than it will be a search for new technologies' (Ronfeldt and Arquilla 2000: 5).

The RAND study cites the Zapatistas in Mexico, which temporarily united a range of international non-governmental organizations with indigenous movements, with considerable impact over about a decade (Lakin 2009). They also describe the International Campaign to Ban Landmines, which has brought together many types of organizations across the world. Unlike many such campaigns, this one seems to have survived its initial (partial) success: after achieving a major treaty and signing on hundreds of nations, it has maintained a strong interoperable network of varied groups working on implementation and extension of the agreement.

What is distinctive about a swarm is its high level of both diversity and integration. It combines multiple communities and movements with their own centres, encouraging them to use their distinct strengths to advance the purpose, rather than following a unified campaign blueprint or chain of command.

Despite apparent similarities, swarming is different from the familiar labour strategy of mobilizing wide coalitions. Some of the most inspiring moments of labour history have involved sudden widening of support, when women or community representatives have joined the picket lines. But these have increased the *size* of actions, rather than enabled independent groups to approach from their own angles; in RAND's terms, they have added power to 'brute-force massing', rather than co-ordinating dispersed 'networked maneuver units'. And lacking a coherent relational base, they have generally resulted in brief 'explosions' rather than creating a solidary sense of obligation.

Swarming movements can be particularly effective where the mere massing of numbers does not create effective power. This is increasingly the situation in advanced societies, as institutions of power have become more flexible and based, to a considerable degree, on knowledge. It is often more effective to intervene rapidly with a small force, rather than with a large mass in predictable confrontation.

4. Organizing a solidary swarm

Can swarms be organized? What is the role of unions, or their successors, in this world?

Actual union efforts to connect to Occupy and web communities have so far not been very successful. The 'massing' conception still guides most union-sponsored collective action: leaders are used to bringing together large groups of people around simple shared demands, with conflict as a motivating focus. Their organizational structure has been federated and bureaucratic, with clear hierarchies and offices. All of this simply rubs the wrong

way in friending communities: the relations they value are fluid, diverse, expressive, participative, decentralized. They seem to reject all formal organization and leadership: the gay rights movement, like Occupy, operates without a charismatic head. They like to move, as it were, by *bricolage* — trying things out, piecing things together, doing what feels right — rather than by joining in pitched battles.

Some unions joined in with Occupy for a time but were quickly frustrated by its lack of focus, as well as by a more diffuse sense of cultural difference. Other labour efforts to connect to youth via social media have also been unsuccessful. Service Employees International Union, one of the most open to this kind of experiment, tried to launch its own social media platform called 'MyLife', but it never gained traction. Unions have sponsored websites and informal associations at Wal-Mart, IBM and other companies where conventional organizing tactics have failed; these have, with few exceptions, assessed their progress by how close they get to the ideal of having a large number of workers confront the boss in a unified group. One can find only a few, small exceptions — labour actions that have co-ordinated multiple groups for short periods in 'strikes from all directions' (Anon. 2009; Carter *et al.* 2003). So far, they have been brief and focused on rather specific goals, and have rarely extended further.

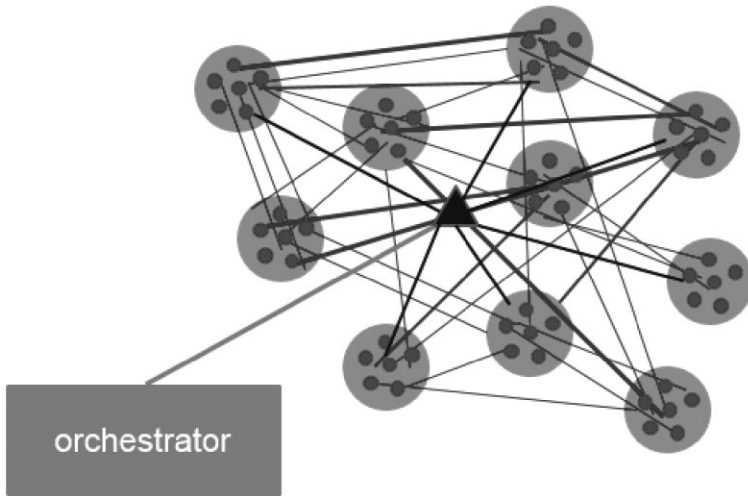
If friending relations are to be mobilized for action, it must be in a different way from the mass movements of the industrial phase. It must turn the openness, diversity and wide understanding of friending to good use. This requires a new set of organizing techniques and structures that are already visible, at least in early form, in the movements we have sketched.

Orchestrators

Network theory, especially as applied in business practice, offers some help with this problem. It suggests that when you want to organize a dense network, you do not need a hierarchical leader in any familiar sense; you need an *orchestrator* (Bortoluzzi *et al.* 2008; Brown *et al.* 2002; Wind *et al.* 2009) (Figure 3).

An orchestrator is not a superior but a member of the network with a central position that can co-ordinate information and links. Whatever power it has comes from the usefulness of the information, tools and connections it can provide. In the Mozilla case, the Mozilla Foundation plays this role. Another example from well before the Internet era comes from the movement that pushed for the passage of the Americans with Disabilities Act in 1992. This movement involved a wide range of organizations, including large national membership groups, unions, militant direct-action groups and progressive businesses. A key orchestrator of this seeming chaos was a small research group called the Disabilities Rights Education and Defense Fund (DREDF). They had no power over other actors and little clout themselves with Congress; but they had a rich fund of information that gradually led more and more players to call on them, and placed

FIGURE 3
Cohesive small world with orchestrator.



them at the hub of the community network. Thus, they were able to create links and help shape the direction of strategy (Heckscher and Palmer 1993).

The work of orchestrators centres on putting together three key organizing components of collaborative movements: platforms, purposes and self-regulating processes.

Platforms

The organizational matrix of successful purposive solidarity is not the familiar bureaucratic hierarchy, but a platform. A bureaucracy seeks ways to maximize the effective implementation of plans defined at the top. It may be democratic, like unions, in that members have rights to elect officers and vote on strike authorizations, but it is the leaders who decide when to strike, and an effective union is one where that decision gets carried out swiftly and consistently by all members.

A platform has an entirely different implication: the goal of the 'leadership' is to maximize the ability of members to *use* the organization for their own purposes. The World Wide Web is the master platform: its power comes from the fact that it has enabled an almost infinite number of new uses that had *not* been foreseen by its designers. It is not particularly good at carrying out a coherent policy, but it is very good at generating innovative projects. Within the web, more focused platforms have grown up, such as YouTube or Twitter, or of course Facebook, each creating a new level of capability on the wider base of the Internet as a whole.

Mozilla's platform, like others of this type, provides several essential resources to those who use it, which helps both to draw them to the network and to make them more effective. It provides tools: software that makes it easy to create web pages, conduct online discussions, mix videos and analyse existing web pages. It provides connections: organized directories and co-ordinators to enable participants to find others with the interests and skills they need. And it provides data or information about key challenges for the open web. All of these platform elements can be used by participants for their own projects — they are designed to enable decentralized activity.

For bureaucracies, the core principles are still essentially those spelled out by Max Weber over a century ago: clear hierarchy of authority, strong accountability and rational rules. For platforms, the principles have not been so magisterially defined, but they include the following:

- *Accessibility*: Platforms are the opposite of closed revolutionary cells, or even closed member organizations. The wider the access, the more platforms serve their purpose. They gain strength from the 'network effect': the more people use them, the more others are drawn in, and the more variety and excitement are generated. In other words, the platform's strength comes from breadth rather than tightness of ties.
- *Interoperability*: Platforms are stronger when they can connect to *other* platforms and projects. Web-based platforms, for example, publish open protocols, or 'APIs', that enable others to dock on to and use their tools. The APIs of Firefox enable programmers to design extensions to add new utility; within software development projects, the protocols guide contributors who want to create new modules and capabilities.¹¹
- *Mutualism*: Effective platforms are not 'broadcast' centres for disseminating a coherent message or distributing benefits. Instead they help members interact with each other, to define their own priorities and activities. Members learn from each other and benefit from the knowledge, and sometimes direct help, of peers.
- *Practicality*: Effective platforms draw people primarily through the usefulness of the tools they provide. Facebook is more useful for certain purposes than the Internet, on which it is built, because it provides focused tools for sharing personal information: streams, photos, chats and so on. Other more focused platforms are built on Facebook to facilitate, for example, the creation of social-action networks.

There are few, if any, developed platforms directly related to labour. Most labour-oriented web sites are built for getting a message out — publicizing actions and grievances — and are quite clearly aimed at building strength for eventual 'real' unionization. Some independent groups have created experience-sharing platforms for groups such as Wal-Mart workers, IBM managers or independent workers, but we have not found any that have developed into a wider range of activities than complaining about company actions.

Purpose: The Development of Shared Visions

A pure platform like the Internet can be used for almost anything. What moves it towards an organized form is the addition of collaborative purpose — one that inspires diverse people to orient their actions towards the same general cause. Adding purpose to a platform can produce a social movement that is ‘high-high’: combining high decentralization and autonomy with goal-focused effectiveness.

Purpose in a collaborative movement has to give direction to people who are relatively diverse and dispersed; but rather than focusing them narrowly on a concrete goal, it seeks to inspire them to take their *own* actions around the same cause. Thus, a collaborative purpose must be broad enough to bring in people with quite different views, and to encourage a range of innovative activity, yet also specific enough to move in a coherent direction.

Effective collaborative purposes are images or stories of a desirable future in which a wide array of actors can see themselves playing a role. The Mozilla mission statement above has these core qualities: it is an actionable and fairly concrete picture of the Internet as a liberating force. Those who join the movement feel they can contribute to this picture, although in many different ways. This kind of purpose also needs to be understood by participants at a deep level. The Mozilla image of an active Internet cannot be grasped instantly, like the goal of a 5 per cent wage hike; it needs to be learned and internalized over time. Thus, it requires constant attention and discussion. Internet groups frequently hold ‘hackathons’ for this kind of learn-as-you-go mobilization and socialization. In the corporate world, it has become commonplace for strategy — once the preserve of top management — to be discussed continually throughout the organization and to become the reference point for performance reviews. In other movements we have studied, there are regular discussion ‘loops’ that return to the orienting vision to refine and modify it in the light of experience (Heckscher 2014).

For the labour field, an effective purpose would need to build a picture of an alternative to bureaucratic employment, giving substance to the core orientations of friending: openness, diversity and engagement. The current alternatives, however, are generally marginal and utopian: organic farming, worker co-operatives. The friending world itself has tended to images of mutual exchange economies (Botsman and Rogers 2010). These developments, although suggesting potential crisis in existing institutions, have yet to be elaborated into credible mobilizing purposes.

Self-Regulating Governance Processes

Movements that co-ordinate diverse, relatively independent groups have to put a high premium on deliberate process. In craft communities and bureaucratic organizations, obligations are ‘frozen’ into statuses and offices, but in more fluid movements they have to be constructed on the fly and be open to continual restructuring.

Collaborative movements have developed quite innovative approaches to necessary governance processes that maximize self-regulation rather than central authority. Open-source systems, which have managed to produce very large and complex products on a base of open volunteers, have developed an especially rich array of mechanisms to enable co-ordinated action (Demaziere *et al.* 2007; Ferraro and O'Mahony 2012; Ghosh 2005; Myrach 2005).

- They develop mechanisms of reputation to a high degree. Web-based communities have focused on systems of reviews and ratings of reviews and reviewers, 'liking', and complex algorithms measuring contribution. These develop reputation verification through elaborate mechanisms to gather information on contribution, which are used in distributed ways to build collaborative linkages. 'Mere' status — based on credentials, office, education, social class, gender, race, or other traditional or technical criteria — is *devalued*; what is valued instead is demonstrated ability to contribute to the work of the community, including openness, willingness to help others and sharing credit.
- Decision making is largely democratic, but in a sense different from periodic elections of leaders of otherwise bureaucratic structures. As a general principle, those who make the most contribution to open-source communities have the most decision rights — there is a move away from equal-voting processes. At the same time, more decisions are made on the periphery and are gradually absorbed into the centre, rather than the reverse (O'Mahony and Ferraro 2007).
- There are strong processes based on standardizing interfaces among modularized units of code. These are, in a sense, alternatives to the bureaucratic model of control: they create standards and structure from within, through participation, rather than through imposition from higher levels or outside experts.¹²

These self-regulating innovations have not eliminated the need for leadership, but they have distributed it. This is an ongoing learning process, with open-source projects often going through rather painful developmental transitions as they grow more complex (O'Mahony and Ferraro 2007). There are continuing debates over the line between leadership and oppression, about the handling of deviants ('trolls'), and about how to prevent 'forking' (splitting of code by people who want to go their own way) (Metiu and Kogut 2001). Wikipedia has used the reversibility of changes as an effective way to isolate trolls; reddit (and other sites like it) uses a complex continuous-voting algorithm.

Emergent efforts of this type are gradually building a new way of organizing, one built on the values of friending relations and reflecting their complexity and openness. They form a real basis for public and collective action within a cohesive small world, turning its fluidity into a virtue by more effectively mobilizing diverse creativity.

5. Conclusion

Solidarity is neither singular nor eternal: it takes multiple forms that shift over time. It follows its own laws, going through different periods and structures, partially independent of political and economic developments. It can best be understood not by analysis of interests, but by an understanding of 'normal' relations — the domain of what is often called civil society. (The types of solidarity we have discussed — craft, industrial and collaborative — are summarized in Appendix 1.)

The decline of labour solidarity is part of a more general decline in familiar forms of civil society throughout advanced industrial capitalism. But in advanced societies, something new has been rising: a form of interaction and morality structured as something like the relationship of friendship, but looser and wider. It is more unstable than familiar solidarities, and has proved hard to mobilize. But in some contexts, it has been capable of generating collective actions different from the 'brute force massing' of industrial unionism. By encouraging the development of individual and group capabilities, and by organizing these partially autonomous actors into co-ordinated 'swarms', new movements have shown flashes of promise. Collaborative swarms are particularly effective in situations that require, as it were, guerrilla action, with rapid adaptation and local innovation. They provide platforms for diverse groups to invent their own tactics and can bring together unlikely coalitions. Their weakness has been an inability to sustain long power struggles.

It seems likely that swarms can become more effective through the deployment of organizing techniques that are still in their infancy: network orchestration, the creation of platforms, the development of collaborative purposes and the elaboration of self-regulating processes. Unions have had trouble in mobilizing the potential new energy because they have the traditions and structures of leaders of masses rather than orchestrators.

A historical perspective suggests that a transition from industrial to collaborative solidarity will be neither quick nor smooth. When labour moved from the craft to the industrial form a century ago, there was a great deal of combination and mixture: at some points, the two forms combined in powerful movements, while at others they found themselves in conflict. It is likely that collaborative movements will at times co-ordinate with industrial and craft unionism, and that various hybrids will emerge. Moreover, we can expect a protracted struggle for legitimacy between those who are trying to build on friending relations and those who resist it. The strong minority who vehemently reject the new orientation will continue to defend more traditional images of relations and community, while its proponents need a long period of exploration and learning to fill out a new approach.

Movements of reaction often have greater solidarity than those of progress because they have stronger established relations and clearer ideologies. Unions and their allies can accelerate the development of collaborative

solidarity by learning from the lessons of open source, of swarming, of viral campaigns and other ways to draw on the general rise of friending relations.

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Notes

1. Two partial exceptions are Hyman (1999) and Zoll (2001), both of whom share the general direction of the current essay in suggesting a pluralization of solidarities. They do not go far, however, in developing the general theory of the concept.
2. For elaboration of these two theoretical 'bases', see Appendix 2.
3. Important remaining bastions of something like industrial solidarity include occupations like teachers and nurses, which have relatively strong traditions of semi-professional autonomy and self-definition but are subject to increasing bureaucratization in large workplaces.
4. The Paris Commune, moreover, shows the importance of existing networks: pre-existing informal and organizational networks were the foundation of the actions (Gould 1991); visions of worker control were supported by only a small minority.
5. This view of solidarity is consistent with Weber's treatment of the partial independence of civil society. In *The Protestant Ethic and the Spirit of Capitalism*, he argued that the success of capitalism was due not only to the development of key economic institutions but also to the emergence of values that emphasized self-mastery and rationalization of character, and that the latter arose from independent dynamics not as an inevitable result of the economic shifts. The dynamics of solidarity, likewise, cannot be deduced directly from economic factors, although they are certainly affected by them.
6. I have not tried to cover all possible forms of solidarity in this discussion. One might consider distinctive forms among service, (quasi-)professional and certain public-sector workers. These, too, have failed to sustain collective movements in recent decades, and many are facing the same fragmenting pressures as industrial workers.
7. That includes the first author of the present piece, who argued in the late 1980s that social identity movements would replace workplace-based movements as key drivers of social justice (Heckscher 1988).
8. <https://reps.mozilla.org/events/#/period/future/> (14 February 2014).
9. <http://mozillafestival.org/>.
10. <https://webmaker.org/en-US/tools>.
11. Interoperability and accessibility pose challenges for competitive economic models. Competitive logic drives companies to close and control their platforms, while communities of users continually seek openness. For instance, each major company wants to 'lock down' its own messaging application to draw everyone into its own orbit, but since people want to communicate across those boundaries

independent programmers continually invent programmes that allow consolidation across the different systems.

12. Elsewhere, we have called these mechanisms of ‘interdependent process management’ (Heckscher and Adler 2006).

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Appendix 1: Types of Solidarity

Table A1 summarizes the types of solidarity we have discussed. (This is not meant to cover all forms of solidarity, just some key forms relevant to labour history.)

TABLE A1
Types of Solidarity

	<i>Craft</i>	<i>Industrial</i>	<i>Collaborative (purposive)</i>
Relations	Occupational institutions: status, apprenticeship, etc.	Factory interactions	Cohesive small world Friending Platforms, processes
Ideological image (values)	Artisanal, independent, communal, with local self-governance	Distinct roles within defined set of universal rights; Balance of power (limiting management control; mixed economy; etc.)	Diverse and pluralist association
Co-ordinating structure	Self-governing status community	Bureaucratic organization	Orchestrator Platforms/process
Type of collective action	Communal action (usually defensive)	Mass action Confrontation	Multiform co-ordinated projects Swarms by independent units
Core obligations ('rules of the game')	Fulfilment of obligations; defense of group (loyalty)	Support for common action and 'brothers'	Contribution to the purpose Mutual helping
Motivational pattern	Honor	Collective identification (pride)	Exploration and learning Seeking understanding

Appendix 2: A Note on the Theoretical Frame

The analysis in this article is based on a theoretical framework built on two pillars: it treats any social group both as a system with complex interrelations among the parts, and as a moment in a developmental sequence of increasing complexity and adaptability. Solidarity is treated both as one aspect of social systems and as evolving through a sequence of three stages of historical development.

The systems analysis uses Parsons' four-function paradigm, which was central to Dunlop's seminal *Industrial Relations Systems*, and which remains in our view the most comprehensive and rigorous analytic frame for understanding complex systems and historical developments over long time frames. Parsons follows Durkheim in dividing community into two basic components: the 'web of relations' linking multiple subgroups and roles through reciprocity, and the set of moral or value constraints imposed on all members. That is, people have specific obligations to others with whom they relate, and they have universalized obligations to moral values. We treat solidarity as a combination of those obligations around collective action.

Adding a developmental model puts the system in motion, treating conflicts and changes as leading over time towards new systems. Such a view has been developed by Piaget in cognitive psychology and by various complexity theorists (Comfort 1997; Khalil 1996; Piaget 1999). Marx's theory is also essentially developmental — capitalism is 'higher' than precapitalist forms and has greater capability. This frame leads us to look for *different kinds* of community with different levels of complexity, each with its own norms and values, as well as distinct underlying systems of authority and economic production.

Historical sociologists broadly agree on two kinds of community: traditionalistic and modern. In 'traditionalistic' community, relations are based primarily on ascribed statuses and are long-term and inflexible; trust breaks down when these status obligations are violated. In the modern community, trust is based on impersonal exchanges among roles within a rule-based system. Thus, individuals can break with the obligations of their statuses, and roles can change, without everything falling apart — as long as faith in the integrity of the system overall remains strong. Many sociologists, including Marx and Durkheim, and more recently Habermas and Giddens, have also felt that there must be some third kind of community beyond the modern-contractual one — a type that is less impersonal and rule-based, more deliberative and value-based. The first author of the present piece has argued elsewhere that we can observe a version of this third kind of community in corporations faced with the need for high trust in complex knowledge environments. We have called this type *collaborative* community (Heckscher and Adler 2006).

The two classic forms of labour solidarity — craft and industrial — are treated as based on the two major communal types: traditional and modern. What we have called the 'friending' form of relation is in this analysis the relational side of the collaborative community at the societal level, fairly early in its development, with not much explicit self-understanding yet. Our discussion is an attempt to build an 'ideal type', through inference from actual practice such as Mozilla, of the norms and values that characterize this practice.