Crowd Wisdom: Implications for Record-Keeping by Organizations
Owen Ambur, October 6, 2008

In *The Wisdom of Crowds*, James Surowiecki says:

> Under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them. Groups do not need to be dominated by exceptionally intelligent people in order to be smart. Even if most of the people within a group are not especially well-informed or rational, it can still reach a collectively wise decision. This is a good thing, since human beings are not perfectly designed decision makers. Instead, we are what the economist Herbert Simon called "boundedly rational."[1] (pp. xiii & xiv)

That is necessarily so, he argues, because:

> We generally have less information than we'd like. We have limited foresight into the future. Most of us lack the ability – and the desire – to make sophisticated cost-benefit calculations. Instead of insisting on finding the best possible decisions, we will often accept one that seems good enough. And we often let emotion affect our judgment.

"Yet despite all these limitations," he notes, "when our imperfect judgments are aggregated in the right ways, our collective intelligence is often excellent." (p. xiv) Indeed, he avers:

> If you put together a big enough and diverse enough group of people and ask them to "make decisions affecting matters of general interest" ... group decisions will, over time, be "intellectually [superior] to the isolated individual," no matter how smart or well-informed he is. (p. xvii)

However, in order to be wise, the crowd must be characterized by diversity, independence, and a particular kind of decentralization. (p. xviii) More specifically, he says:

> Groups generally need rules to maintain order and coherence, and when they're missing or malfunctioning, the result is trouble. Groups benefit from members talking to and learning from each other, but too much communication, paradoxically, can actually make the group as a whole less intelligent. While big groups are often good for solving certain kinds of problems, big groups can also be unmanageable and inefficient. Conversely, small groups have the virtue of being easy to run, but they risk having too little diversity of thought and too much consensus... Diversity and independence are important because the best collective decisions are the product of disagreement and contest, not consensus or compromise. (p. xix)

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[1] Dawes makes the point more directly, i.e., that we all commonly engage in irrational thought and behavior. For more on Dawes' views on everyday irrationality, see http://ambur.net/irrationality.htm

Contrary to popular wisdom emphasizing cohesive teamwork, he notes, "The best way for a group to be smart is for each person in it to think and act as independently as possible." (pp. xix & xx) Surowiecki says the four conditions required for crowd wisdom include:

> 1) Diversity of opinion – Each person must have some private information, even if it is just an eccentric interpretation of known facts.
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> 2) Independence – People's opinions must not be determined by the opinions of those around them.
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> 3) Decentralization – People must be able to specialize and draw upon local knowledge.
>
> 4) Aggregation – Some mechanism must exist to turn private judgments into collective decisions.

If those conditions are met, he argues, the decisions of the crowd are likely to be accurate due to a mathematical truism:

> If you ask a large enough group of diverse, independent people to make a prediction or estimate a probability, and then average those estimates, the errors each of them make in coming up with an answer will cancel themselves out. Each person's guess ... has two components: information and error. Subtract the error, and you're left with the information. (p. 10)

Although averages are generally mediocre, Surowiecki notes that they often results in excellence in decision making. (p. 11) Moreover, he suggests, "The real key ... is not so much perfecting a particular method, but satisfying the conditions – diversity, independence, and decentralization – that a group needs to be smart." (p. 22) The process is twofold: Prior to making the decision, all of the possibilities should be identified.[2] (p. 27)

The system should encourage speculative ideas even though most of them are unviable. (p. 28) No system, particularly governmental agencies, is adept at picking winners in advance. What makes a system successful is the ability to "generate lots of losers and then recognize them as such and kill them off" quickly. In short, "Generating a diverse set of possible solutions isn't enough. The crowd also has to be able to distinguish the good solutions from the bad." Toward that end, diversity is useful because it "adds perspectives that would otherwise be absent and because it takes away, or at least weakens, some of the destructive characteristics of group decision making." (p. 29)

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[2] Note that Dawes defines irrationality as failing to consider enough alternatives. However, Gary Klein observes that in naturalistic settings, decision-making is not rational. That is, decision-makers do not consider alternatives. Instead, they quickly consider the likely success of the first alternative that comes to mind, and if they believe it may succeed, they act upon it. For more on Klein's views, see http://ambur.net/rpd.htm

In the context of records management, this suggests that all records should be maintained for at least some period of time. Each of them should be made available to a wide range of potential stakeholders, so that they can quickly and easily identify those of immediate interest and, thus, by default, those that are not. Records found to be valuable by a diverse group of stakeholders, may warrant special attention and longer-term, perhaps permanent, retention. On the other hand, no record should be prematurely destroyed, since its value may only become apparent later, in light of new information and perhaps in other contexts.

The notion that a single individual or even a group of like-minded records managers should be empowered to "declare" what is and is not a "record" is antithetical to the concept of collective wisdom as Surowiecki expounds it. Due to the benefits of specialization, some individuals will be better at assessing the quality of information in particular records but it is unlikely that any specialist will be better at determining the quality, relevance, and usefulness of all records. For that, the wisdom of the crowd seems likely to be far superior.

Citing W.G. Chase's work, Surowiecki says:

> We intuitively assume that intelligence is fungible, and that people who are excellent at one intellectual pursuit would be excellent as another. But that is not the case with experts. Instead, the fundamental truth about expertise is that it is ... "spectacularly narrow." More important, there's no real evidence that one can become an expert in something as broad as "decision making" or "policy" or "strategy." (p. 32)

Presumably, the same may be true with respect to records and information management. No one may be smart enough or sufficiently well trained to distinguish records warranting shorter- versus longer-term retention, much less to determine which records have no value at all and, thus, may be immediately destroyed.

Moreover, as a general rule, experts overestimate their knowledge and fail to understand not only that they are wrong but how wrong their judgments may be. (pp. 33 & 34) Surowiecki says, "There is very little correlation between experts' self-assessment and their performance. Knowing and knowing that you know are apparently two different skills." (p. 35) Such self-delusion is supported by the lack of records documenting not only accurate decisions and successful efforts, but also those that are wrong and result in failure. Empowering individuals to "declare" what is and is not a record is a clear prescription not only for self-delusion but also poor decision-making by groups.

Surowiecki reiterates that "cognitive diversity is essential to good decision making [because] it extends a group's set of possible solutions and allows the group to conceptualize problems in novel ways.." He notes that "diversity makes it easier for a group to make decisions based on facts, rather than influence, authority, or group allegiance" whereas homogenous groups are at risk of falling into the trap of "groupthink". (p. 36) Homogenous groups are less likely to see the need to compile, maintain, and use good records because, after all, what the group "knows" is only common sense. Insightfully, Surowiecki observes:

The important thing about groupthink is that it works not so much by censoring dissent as by making dissent seem somehow improbable... Even if no consensus exists – only the appearance of one – the group's sense of cohesiveness works to turn the appearance into reality... ***Because information that might represent a challenge to the conventional wisdom is either excluded or rationalized as obviously mistaken, people come away from discussions with their beliefs reinforced, convinced more than ever that they're right.*** (p. 37, emphasis added)

In other words, not only do "in-groups" not need records but they may actively discourage them in order to minimize the threat to prevailing "wisdom" (groupthink) – much less the risks posed by *new* information contained in records generated outside of the control of the group. Conversely, Surowiecki notes:

... independent individuals are more likely to have new information rather than the same old data everyone is already familiar with. The smartest groups ... are made up of people with diverse perspectives who are able to stay independent of each other. Independence doesn't imply rationality or impartiality, though. You can be biased and irrational, but as long as you're independent, you won't make the group any dumber. (p. 41)

Thus, although Dawes' observes that we all engage in irrational behavior as individuals, Surowiecki does not see that as a problem in group decision-making ... so long as we are independently irrational.[3] Unfortunately, he notes that is commonly not the case due to such group dynamics as "social proof," which "is the tendency to assume that if lots of people are doing something, or believe something, there must be a good reason." The problem, he explains, "is that if too many people adopt that strategy, it stops being sensible and the group stops being smart." (pp. 43 & 44)

Surowiecki also highlights a problem associated with what economists call an "information cascade," when individuals make decisions in sequence rather than all at once:

Everyone thinks that people are making decisions based upon what they know, when in fact people are making decisions based upon what they ***think*** the people who came before them knew. Instead of aggregating all the information individuals have ... the cascade becomes a sequence of uniformed choices. (p. 53 - 55, emphasis added)

Such cascading, uninformed choices are enabled and even required by the lack of good, complete, and readily accessible records of what everyone knows or, at least, *think* they know – as opposed to what they think *others* know.

Surowicki suggests that intelligent imitation relies upon two things: first, a wide array of alternatives and information and, second, the willingness of some folks to rely upon their own judgment even when going against the will of the group does not seem to make sense. (pp. 60 &

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[3] For more on Dawes' views on everyday irrationality, see
http://ambur.net/irrationality.htm

61) Moreover, Surowiecki argues, "Organizations ... clearly can and should have people offer their judgments simultaneously, rather than one after the other [since **one**] **key to successful group decisions is getting people to pay much less attention to what everyone else is saying**." (p. 65, emphasis added) In other words, individuals should spend more time and effort documenting their own thoughts and actions, rather than merely listening to what others say.

With respect to the benefits of decentralization, Surowiecki notes that it:

- Fosters, and in turn is fed by, specialization, which tends to make people more productive and efficient;
- Increases the scope and diversity of opinions and information; and
- Is crucial to tacit knowledge, which can't be easily summarized or conveyed to others, because it is specific to a particular place or job or experience.

Decentralization also assumes that the closer a person is to the problem, the more likely he or she is to have the knowledge required to propose a good solution. (p. 71) Ideally, individuals should be free to specialize and acquire local knowledge while also being able to aggregate that local knowledge and private information into a collective whole. In order for that to occur, the group must find the proper balance between the need to make individual knowledge globally and collectively useful while at the same time allowing it to remain specific and local. (pp. 71 & 72)

One way in which to enable simultaneous pursuit of both of those objectives is to encourage everyone to exercise their right to "free speech" but to do so in records that are fully and freely shared with the entire group in a form that can readily be indexed, discovered, and analyzed in the decision-making process. Each individual should be free to enter into each record whatever content he or she desires but should do so in the proper format, with the relevant elements of content as well as metadata required to enable highly precise indexing and discovery.[4]

With respect to collaborative efforts within groups, Surowiecki highlights the distinctions between *coordination* problems versus *cooperation* problems. The former require individuals to think not only about what they believe is the right answer but also what others may think. While coordination can be enforced from the top-down, the necessary authority or coercion may be lacking in open societies, in which bottom-up solutions may work better. (pp. 85 & 86)

Surowiecki further explains:

> When what people want to do depends upon what everyone else wants to do, every decision affects every other decision, and there is no outside reference point that can stop the self-reflexive spiral. (p. 90) [However] people's experiences of the world are often surprisingly similar, which makes successful coordination easier. (p. 92) Conventions ...

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[4] For example, Strategy Markup Language (StratML) is an emerging standard by which individuals and organizations can more efficiently and effectively share statements of their goals and objectives on the Web. For more information on StratML, see http://xml.gov/stratml/index.htm and http://www.aiim.org/standards/article.aspx?ID=34121

maintain order and stability. Just as importantly, though, they reduce the amount of cognitive work [required. They] allow us to deal with certain situations without thinking much about them, and ... they allow groups of disparate, unconnected people to organize themselves with relative ease and an absence of conflict. (p. 93) ... conventions allow people to concentrate on other, presumably more important things.[5] (p. 94)

Surowiecki highlights the need for individuals to be able to adopt a broader view of self-interest in order to solve *cooperation* problems. In order to do so, they must be able to trust that others will do likewise; otherwise the only rational strategy is to pursue one's own, personal interests. (p. 111) Good, complete, and reliable records are required in order to foster trust. Taking into account that we are all irrational as well as driven by self-interests to greater or lesser degrees, it certainly would be irrational to base trust on anything other than records. Moreover, to the extent that individuals may not be creating and freely sharing good and complete records, their motives and actions are certainly subject to suspicion, i.e., untrustworthy by definition.

Citing Robert Axelrod's work, Surowiecki asserts that trust is not so important as prospects for building a "stable pattern of cooperation with each other" based upon "the shadow of the future." That is, prospective partners must start off congenially but must be willing to retaliate against noncooperative behavior as soon as it appears. (p 117) However, for such behavior to become salient, it is necessary to ensure that it is well documented in reliable records. Punishment should not be meted out on the basis of rumor or innuendo, i.e., mere "shadows" of what may or may not be true.

Indeed, punishment is not even the appropriate term to apply to the requirement. Punishment assumes that someone in a position of authority has the power to render judgment and inflict harm upon others based upon something other than the direct results of their actions. Punishment assumes both incomplete information on those actions as well as the consequences they impose upon the actor. If the both the actions taken as well as the results they beget are perfectly clear, what happens to the actor is more properly characterized as *consequences* than punishment.

In short, if partners are uncooperative and both the record of their lack of cooperation and the consequences thereof are clear, no one need render any judgment or punishment. The uncooperative so-called "partner" will simply not be trusted, will have no one but him or herself to blame, and inevitably will no longer be considered to be a partner.[6]

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[5] In *The Psychology of Everyday Things (POETS)*, Donald Norman noted that precise information is frequently not required because behavior that approximates the norm is good enough for the routine affairs of life. (p. 55) For more on Norman's views, including four reasons that precise behavior can emerge from imprecise information, see http://ambur.net/6thGenKM.htm

[6] For more on the distinction between punishment versus consequences in the context of French and Raven's bases of social power, see http://ambur.net/French&Raven.htm

Surowiecki notes, "Quakers were well-known ... for their personal emphasis on absolute honesty, and *as businessmen they were famously rigorous and careful in their record keeping*. They also introduced innovations like fixed prices, which emphasized transparency over sharp dealing." (p. 119, emphasis added) "Fixed prices" are those which have been recorded and are openly shared. One might say that the Quakers have been "rewarded" for their trustworthiness but it is more appropriate simply to recognize that their reputation is a *consequence* of their behavior, including their record-keeping.

Surowiecki observes that capitalism has evolved over the centuries toward greater trust and transparency – not because capitalists are naturally good people but because the "benefits of trust ... are potentially immense, and because a successful market system teaches people to recognize those benefits... For an economy to prosper," he argues, "what's needed is ... a basic confidence in the promises and commitments that people make about their products and services." (p. 120) Moreover, he notes the most important aspect of the more contemporary concept of trust is that it is relatively impersonal. (p. 123) That is, it relies upon something other than personal knowledge and awareness, in other words, trustworthy records and systems.

Moreover, it is important that each individual's personal interests be fairly well delineated. Otherwise the *tragedy of the commons* is virtually certain to play out.[7] Not only are individuals likely to over-consume goods considered to be common property, but the *free-rider problem* also comes into play. Surorwiecki notes: "... public goods games are played in a similar fashion throughout the developed world ... By the end, 70 to 80 percent of the players are free riding, and the group as a whole is much poorer than it would otherwise be."[8] (p. 139)

That seems to be an apt description of where "civilized" societies may inevitably be heading, to the degree they remove personal responsibility from the equation and begin to impose benefits (rewards) and costs (punishment) on the basis of something other than personal intents and actions. Whereas markets are imperfect means of sharing information, particularly with respect to so-called "external" costs, political systems are even less efficient means of sharing such information, particularly with respect to the unintended consequences of decisions based upon political factors.

By definition, political decision-making processes involve groupthink, and whereas most transactions in markets are relatively small, by definition, political decisions affect relatively large groups of people. Of course, the same is true of corporations to the degree they continue to grow larger and larger, until reaching the point of being too big for the political system to allow them to fail, regardless of the costs they have imposed upon the public.

Surowiecki believes that technology has now made global collaboration not only possible but

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[7] The *tragedy of the commons* was first expounded by Garret Hardin. For additional information, see http://en.wikipedia.org/wiki/Tragedy_of_the_commons

[8] For more on the *free-rider problem*, see http://en.wikipedia.org/wiki/Free_rider_problem

even easy. (p. 163) He also remarks on the emergence of a "strange blend of collaboration and competition" enabled by "the scientific ethos that demands open access to information." (p. 166) However, each of us is still confronted every day with difficulties not only finding the information we need or desire but also working efficiently and effectively with those with whom we share common objectives. Current technology merely whets our appetite as we begin to contemplate a future when in fact we can have quick and easy access to good, complete, and reliable records for a far larger proportion of the information we need, exactly when we are prepared to use it.[9]

What is required is not only quick and easy access to the exact information we *desire*, exactly when we want it, but also the information we *need* to overcome the problem of *confirmation bias*, which, as Surowiecki notes, "causes decision makers to unconsciously seek the those bits of information that confirm their underlying intuitions."[10] (p. 178)

Having a small circle of friends or trusted advisors is not good enough, because small groups risk emphasizing consensus over dissent. (p. 180) Moreover, Surowiecki cautions:

> ... in unstructured, free-flowing discussions, the information that tends to be talked about the most is, paradoxically, the information that everyone already knows. More curiously, information can be presented and listened to and still make little difference, because its contents are misinterpreted. New messages are often modified so that they fit old messages, which is especially dangerous since unusual messages often add the most value... Or they are modified to suit a preexisting picture of the situation.[11] (p. 183)

"In small groups," Surowiecki says, "diversity of opinion is the single best guarantee that the group will reap benefits from face-to-face discussion... the presence of a minority viewpoint, all by itself, makes a group's decisions more nuanced and its decision-making process more rigorous... even when the minority viewpoint turns out to be ill-conceived." (pp. 183 & 184)

Conversely, lacking at least a devil's advocate, *group polarization* is likely to occur, whereby discussion leads groups to adopt more extreme, rather than more rational positions.[12] (p. 184) "As a general rule," Surowiecki says, "discussions tend to move both the group as a whole and

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[9] The [utility](#) principle of marketing holds that products and services are worthless unless they are delivered at the [time](#) (temporal utility), place ([geospatial](#) utility), and in the format (form utility) required or desired by the [consumer](#), at a price ([cost](#) utility) he or she is willing to pay.

[10] For more on *confirmation bias*, see http://en.wikipedia.org/wiki/Confirmation_bias

[11] Malcolm Gladwell outlines three stages of this process – *leveling*, whereby details are left out; *sharpening*, where by the details that remain are made more vivid; and *assimilation*, whereby the context is altered to be more meaningful to those sharing the information. For more on Gladwell's views, see http://ambur.net/tippoint.pdf

[12] For more on *group polarization*, see http://en.wikipedia.org/wiki/Group_polarization

the individuals within it toward more extreme positions than the ones they entered the discussion with..." (p. 185)

Additionally, he avers, "in small groups ideas often do not succeed simply on their own merits... having a strong advocate for an idea, no matter how good it is, is essential. And when advocates are chosen ... on the basis of status or talkativeness, rather than on perceptiveness or keenness of insight, then the group's chances of making a smart decision shrinks." (p. 187) Moreover, he asserts, "... there is no clear correlation between talkativeness and expertise. In fact ... people who imagine themselves as leaders will often overestimate their own knowledge and project an air of confidence and expertise that is unjustified." (p. 188)

Foreshadowing the financial crisis of 2008, Surweicki highlights a dynamic that made it virtually inevitable:

> In many corporations ... the incentive system was (and is) skewed against dissent and independent analysis... there was a correlation between upward mobility and not telling the boss about things that had gone wrong. The most successful executives tended not to disclose information about fights, budget problems, and so on. (p. 205)

> While the success of Silicon Valley companies ... made companies anxious to at least appear to be ... pushing authority down the hierarchy, reality has rarely matched appearance, even though dramatic improvements in information technology have made the diffusion of information to large numbers of employees feasible and cost-effective. At the same time, there's not much evidence that the flow of information up the hierarchy has improved much either. To state the obvious, unless people know what the truth is, it's unlikely they'll make the right decisions. This means being honest about performance. It means being honest about what's not happening. It means being honest about expectations. Unfortunately, there's little evidence that this kind of sharing takes place. (p. 207)

Unfortunately, that dynamic is not limited to the corporate world. Perhaps no where is it more apparent than in government and politics, where politicians get elected and reelected by telling voters what they want to hear and bureaucrats hunker down safe in the realization, as the old adage goes, when everyone is responsible, no one is responsible and, thus, no one can be blamed.

If anything, this self-defeating dynamic is even more prevalent and powerful in politics, political campaigns, elections and, thus, the way our nation is governed. What politician in his or her right mind would dare tell the voters what they *need to know*, rather than what they *want to hear*? Presumably not one who desires to be elected and, as the truism goes, one must be elected in order to have influence. Thus, politics and elections seem to be an unending cycle of misinformation and disinformation, with the only saving grace being the diversity of views – which, Surowiecki argues, leads to high-quality decisions even if all of the decision-makers are relatively ignorant ... so long as they are not unduly influenced by each other.

Citing Chris Argyris' work, Surowiecki says:

... "inauthentic behavior" is actually the norm within most organizations [resulting in part from] a deep-rooted hostility on the part of bosses to opposition from subordinates. This is the real cost of a top-down approach to decision making: it confers the illusion of perfectibility upon the decision makers and encourages everyone else simply to play along... It's remarkable, in fact, that in an autocratic organization good information ever surfaces. (p. 208)

Charles Ford says that everybody lies. The only distinction is a matter of degree.[13] And Malcolm Gladwell says honesty isn't a fundamental human trait. It is strongly influenced by context.[14] In that respect, Surowiecki suggests that top-down corporations establish a context that gives "people an incentives to hide information and dissemble. In a market, on the other hand, businesses have an incentive to uncover valuable information and act on it... And as soon as they do, the information becomes, in some sense, public. That's the essential part of what markets do: encourage people to find new valuable information and the let everyone else know about it." (p. 209)

Surowiecki's views with respect to the role of markets is very much in accord with those of John Case, who argues that *open book management* is the wave of the future.[15] In that vein, Marc Epstein and Bill Birchard have argued that leading organizations know how to "count what really counts" and thus better understand and more effectively manage their operations. However, two of their examples as paragons of virtue – Arthur Andersen and Tyco – are in fact ironic poster children for the *problem* – which is the lack of metrics by which the performance of each and every employee, from the top to the bottom of the organization, can be assessed and reported to stakeholders with respect to the quality, completeness, and accessibility of the records they create.[16]

Summing up his argument, Surowiecki reiterates "individual irrationality can add up to collective rationality" within the context of markets unfettered by systematic bias. (p. 231) To avoid such bias, he asserts information should be disclosed "without hype or even commentary from people in positions of power." (p. 255) Morever, he notes, "... the Internet ... makes is much easier to aggregate information from many different sources than ever before." (p. 276) However, as previously noted, even the wonders of the Net as it now exists leave much to be desired, and that represents an opportunity for all of us to contribute more effectively not only to our own well-being but also the fate of others – through the collective wisdom of the crowd.

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[13] For more on Ford's views on the psychology of deceit, see http://ambur.net/Lies.htm

[14] For more on Gladwell's views, see http://ambur.net/tippoint.pdf

[15] For more on *open book management* and Case's views in particular, see http://en.wikipedia.org/wiki/Open_Book_Management and http://ambur.net/openbook.htm

[16] For more information on Epstein and Birchard's arguments, see http://ambur.net/counting.htm

Finally, Surowiecki concludes, "For me, one of the key lessons ... is that we don't always know where good information is. That's why, in general, it's smarter to cast as wide a net as possible, rather than wasting time figuring out who should be in the group and who should not." (p. 276) For the rest of us, logical conclusions include:

- We should make it as easy as possible to find good information regardless of where it may be located on the World Wide Web, and
- To the degree that anyone wants to be part of the decision-making group, he or she should contribute good and complete records of his or her own points of view, intentions and actions, unfettered and unfiltered by the views of others.

Unless and until we begin to do those things more efficiently and effectively, we will continue to "outsmart" ourselves by relying upon the questionable wisdom of others, all of whom have something other than our personal interests foremost at heart and, thus, do not deserve to be so empowered by us. However, the risk we must be willing to take is to begin accepting more responsibility for achieving positive results for ourselves and our families, rather than continuing to cling to the ability to deflect blame to others for *their* failures to serve our needs and wishes.[17]

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[17] For a discussion of the views of Roger Connors, Tom Smith and Craig Hickman on why we may prefer to defer to others in trade for the opportunity to deflect responsibility away from ourselves, see http://ambur.net/oz.htm