

Third Sphere of Information Dynamics

Third-level spheres, small groups of individuals in a common environment and engaged in a common endeavor, are bounded by natural limits imposed by our physical nature, limits in our ability to process and expand information. Our biology has ancient means of receiving, generating, and compiling information into actionable Intentions, means which can't simply be shut off or ignored even though we now receive, generate, and compile information in evermore increasingly advanced processes. When we must make decisions about the truth of knowledge presented or the meaning of other people's Intentions, especially when issues involve risk, resources, cooperative behavior, and conflict, we pay attention to as much information as we can: any available modern or primitive communication mode is actively engaged. As we get closer physically in proximity to other people in this process, more communication modes are available and receiving information. When small groups of people come together with a set of intentions for forming the group, relationships form not only between each pair of persons in the group, but the group itself forms a third-level spherical relationship. Each person contributes to the third-level sphere and has a relationship with its entity. The way information flows in a third-level sphere is unique, because of the high complexity of the information involved, the potential of all Intentions and the noisy exchanges to create communication issues, and the high relevance of the first and second-level spheres involved in the group.

The richness, quality and variety of information is very high in small groups of people. As a group forms, people exchange information about their first-level identities and individual capabilities. Second-sphere relationships form immediately, and the group's initial reasons for forming are likely focused and coherent, although not all members will immediately have the same understanding of the core messages or intentions. Rich communications abound, while people work to reduce uncertainty about the group intentions and the emerging second-sphere relationships. To sustain the effectiveness of the group and these rich communications, and especially when issues involve risk, resources, cooperative behavior, and conflict, we find people are physically limited in the number of individuals who can make up a sustainable small group.

For humans, organizational, family and team patterns show that third-level spheres are comprised of 3 to 12 people, where 12 is a very high number for this sphere, and is normally unsustainable for a long period without a clear purpose, common knowledge-sharing, an unusually tight and constraining rule-set, as well as a strong leader. However, people who have experienced a well-functioning sphere of 10-12 people will often report feeling a sense of teamwork and collaboration that was a highlight of their lifetime, and a foundation for life-long friendships. Now, the smaller the community,

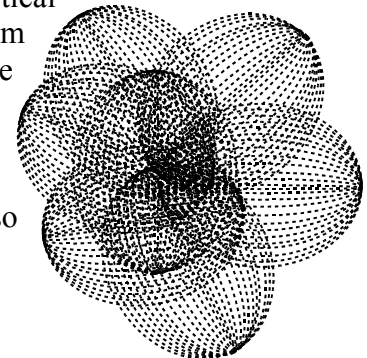
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the more likely it is a coherently communicating sphere. There will be a common awareness of many key *situational factors*, plus communications are richer due to the proximity of community members: their verbal or written communications are presented in context of many other communication messages sent and received via the rest of our active communication modes. Relevant *situational factors* perceived in common by group members heighten communications and activities towards common objectives; these factors include:

- Common awareness of **apparent risks or threats**. Sharing any environment produces clear consensus in a small group about which risks exist, and what constitutes acceptable levels of risk as well as survival opportunity. A special type of risk relevant to the third sphere is the dynamic of romantic or reproductive-oriented second-sphere relationships by members.
- Common awareness of the normal, general state of **balance between conflict and cooperative or collaborative Intentions**. A small group will normally have a general consensus about the state of cooperation and conflict among group members as well as between the group and other individuals and groups, including such higher level spheres as a church or a government agency.
- Common perception of the vector of beneficial changes. A small group will have a general consensus about which changes in their situation will have benefits, and will form cooperative efforts in a particular direction, to realize their common Intentions.

Therefore, small or isolated communities develop cooperative behaviors at higher rates than larger spheres, and they experience a convergence of awareness of the vector of beneficial change as discussed in Chapter 3: the result is information increasing towards realization of these Intentions, even at the biological and cellular levels.

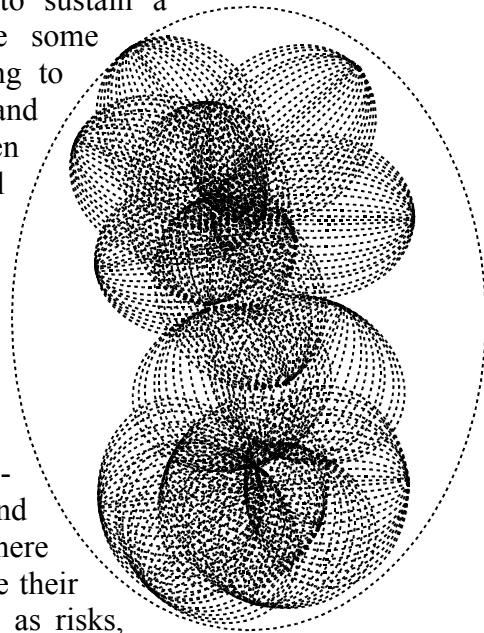
A Ven diagram is used to show relationships of information domains with the overlap or intersection of spheres, and is used for logical and statistical analysis. A set of six individual spheres in the Ven diagram shown in Figure 1 shows how third-level spheres are formed: the multi-nodal overlapping of intersections by six spheres shows the importance of physical proximity: the closer the spheres to the same space, the more overlap. The diagram demonstrates that each Pair of people in a third-level sphere are also



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experiencing second-level spherical relationships, and having the very rich communications needed for trust. As groups expand to the point where second-level relationships don't exist between all pairs, third-level spheres will split into smaller groups, maintaining the 3-12 numerical limit.

If the newly-split third-level spheres continue to sustain a relationship between them, it will be because some members of the respective spheres are continuing to have second-level relationships between them, and there is common awareness of cooperation between the third-level spheres as well as key second-level relationships. Groups of third-level spheres are, guess what: fourth-level spheres, shown in Figure 2.



As discussed above, the higher the number of individuals in a third-level sphere, the greater the need for common purpose, awareness, knowledge-sharing, leadership (and leadership-sharing), and strong personal relationships at the second-sphere level. As discussed above, the group must achieve their Intentions in the face of *situational factors* such as risks, conflicts within and without, and general agreement about the beneficial direction of change. The same Attributes involved in the dynamics of first and second spheres enable the third-level spherical group to function in a healthy, sustainable manner: information must flow with degrees of *Openness, Honesty, Respect, Generosity, and Commitment*. Individuals not only need to conduct their second-sphere relationships in this group with these attributes of Love to sustain those relationships and thus sustain the group, but there also needs to be a general consensus among group members that an acceptable level of each Attribute exists across the entire group.

Each member needs to demonstrate they are committed to the group, to doing what is necessary to maintain the acceptable levels of Love attributes to keep the group moving towards their objectives. However, there are always significant changes introducing new intentions as well as new noise: knowledge is scarcely static, rules and laws are always changing. Plus for a third sphere, the membership of the group itself normally changes fairly rapidly, and includes leadership changes which can profoundly affect the group's perceived directional vector of beneficial change. Information flows about the current level or state of the key Love attributes, *Openness, Honesty, Respect, Generosity, and Commitment*, as does any Information Flow, with Intention, with

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Noise due to errors and uncertainties, and with *velocity*. The timeliness of the information exchange is now much more important in the third-level sphere, the **Transmission Speed** of the information flow. Let's examine how these attributes shape behaviors and communications in a third-level sphere, as illuminated by *situational factors* particularly important at the third level.

- **Apparent Risks:** These include risks or threats to specific individuals, risks to individuals due to the groups' collective behavior, and risk to survival of the group itself, as a group having specific Intentions, and therefore risk of whether these Intentions will be realized. On the basis of the latter's importance, group members are compelled to be **Open** and **Honest** about their perception or identification of risks, including how the groups' Intentions are threatened. This Openness and Honesty about risks or threats must be demonstrated in a very timely manner, or the very attributes of openness and honesty will be in question: bad news must be shared as soon as possible. Group members must show **Respect** for each other and the group, communicating due regard for the risks imparted on any specific individual as a consequence of group endeavors. These must be acceptable risks agreed to by all, or the integrity of the group as well as the integrity of the many second-sphere relationships won't hold. Now, we've implied two key aspects which must be discussed thoroughly, as they are also at the heart of third-level relationships: **the knowledge** about risks **is shared by the group**, so that no member has more **Uncertainty** than others, and **there is agreement** about the acceptability of risk imparted on any member.

This agreement includes agreement about whether the knowledge is true, and whether the collective uncertainties about risks are generally acceptable in light of: 1) the importance of the group's Intentions, 2) comparison to other sources of risk, and 3) the importance of survivability of the group and its members. **Generosity** of individuals is expected in efforts by the group to reduce risk: contributions of resources are a given, and to levels each member will believe is appropriate of others. Generosity by individuals to shoulder more risk for the benefit of the group's Intentions are met with 1) uncertainty the person understands these risks, 2) unease that someone may risk too much and thus threaten the overall success of the group, and 3) gratitude which may be conveyed with respect, generosity, and commitment at second-sphere levels. **Commitment** to follow-through with risk reduction is also a given in third-sphere agreements: promises not met will definitely result in conflict and new uncertainty about whether individuals understand the risks at hand.

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- **Reproductive Availability.** Any individual in a third sphere considering reproductive opportunities will face other group members' perceptions about how this special second-sphere dynamic will affect the group. This is a special risk potentially impacting the integrity of the group itself, their resources, their current state of risk, prior commitments, and of course the balance of cooperation and conflict. Reproductive opportunities can affect the success of the third-level spheres, because of significant changes in existing second-sphere relationships, creation of new second-sphere relationships, impacts on resources available to the group to reduce risk and further the group's Intentions, and impacts on the relationship of the third-level sphere to other third and higher-level spheres. Therefore, group members will endeavor to help identify available partners so their members will continue to be happy, but will carefully assess risks introduced by each new person or pairing. As partnerships succeed and fail, the group will develop rules or required/acceptable processes by which opportunities are availed by members and supported by the group.

Sometimes, the group feels it may not survive an unacceptable pairing, and there are only three choices: 1) adjust the rules or process and hope the group may survive, 2) split into new groups, or 3) eliminate one or both members of the unacceptable pair from the group. Pairings which are deemed unacceptable will definitely result in conflict, creating new uncertainty about whether individuals understand why the rules are important or whether they should remain members of the group. People are thus expected to be **Open** and **Honest** about their Intentions to pursue reproductive opportunities, especially in context of the impacts on the group's Intentions, and also to inform others in a **timely manner** about their intentions. People are expected to be **Respectful** of existing second-sphere relationships within the group in making reproductive choices. The group in turn is expected to be **Generous** with their support of people who are following the rules or required/acceptable processes, and to demonstrate their **Commitment** to support member's acceptable pursuits of reproductive opportunity.

- **State of Cooperation and Conflict.** There will be an overall common understanding of many Intentions of the group members, and the group will normally share a common perception or interpretation of the Intentions of other individuals interacting with their sphere, and those of other groups and higher spheres. There is cooperation for existing and evolving Intentions held in common by the group, and cooperation at first and second sphere levels within the group. Within the group, there are also layers of conflict. At each spherical level, there are Intentions in conflict with each other – internally within each individual, Intentions in conflict between each individuals within each pair

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(second-sphere relationships), Intentions in conflict between second-sphere pairs, and Intentions in conflict between each individual and the Intentions of the third-sphere. As individuals work to resolve internal conflicts, and conflicts in second-sphere relationships, the dynamics and the information changes create rippling conflicts throughout the third-sphere group as well as changes in the group's overall common understanding of the state of conflict and the risks of these conflicts to the group and its members.

Conflict is present immediately whenever an individual or pair creates a new Intention: immediately people in the group begin assessing any risks introduced by the new Intention, even before they may fully comprehend it (reduce noise), and they begin evaluating whether the new intention is in conflict with existing Intentions. Group members want to know what situational factor compelled this new intention, who in the group has knowledge about it or participated in creating it, what the uncertainties are, and whether changes in rules are required or requested. The conflict will normally subside relatively quickly, people may discover the new intention increases the rate by which their overall intentions might be realized, and members of the group may respond by working to facilitate the changes and the intention, driving the equilibrium back towards collaboration.

Somewhat less than equally likely is that the small group will reject the new intention. An intention might be serious enough that members who created it could disengage if the group isn't receptive to the change, or they could escalate conflict levels in order to bring the intention to fruition. Likewise, the other group members may believe rejection of the new intention is worth the potential conflict or the group membership. Conflict will disrupt the group's efforts to realize existing Intentions, and it may also disrupt the group membership itself. The recurrence of this threat to the group with each new intention tends to result in rules made with the best of intentions: to protect the group and its intentions by governing its membership and to regulate members' opportunities to inject change, by prescribing which kinds of intentions are acceptable to the group and by establishing which kind of behaviors are expected of group members.

Openness and **Honesty** are therefore qualities of the cooperation-conflict equilibrium: sharing the truth about the state of existing Intentions allows all members to assess how well these Intentions are being realized, and to evaluate change in the same context. A self-sustaining third-level sphere will adopt a general sense of **Respect** for individuals' needs to realize personal intentions, to tolerate some level of conflict induced by variations as intentions are created,

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realized or discarded. Members openly acknowledge their respect for the group Intentions by working to minimize the level of conflict in the group. This type of respect creates harmony in the group. People are expected to be **Generous** with their time in reduction of conflict, or there will be uncertainty about not only the intention at hand: the person's **Commitment** to the third-sphere will be in question as well.

Cooperative efforts dramatically affect risk reduction, survival, reproductive opportunity, and reduction of conflict; they also tend to have *power* in the mathematical sense: Cooperation engenders further cooperation, a non-linear reinforcing function: an acceleration of the shift in the cooperation-conflict equilibrium, moving at increasing rates towards further cooperation.

- **Vector of Beneficial Change.** A self-sustaining group's Intentions will be in some general direction towards beneficial changes and increased information: an overall vector of beneficial change. The group believes in its Intentions, that realizing these Intentions will result in the beneficial changes sought by the group. Their cooperation takes on a moral character – new Intentions perceived to be in conflict with the group Intentions are potentially violations of the *group agreement* that they are collectively on the best road towards valuable changes.

Relative morality is a strong characteristic of third-level spheres. Group and individual intentions are declared, and then individual variations of intentions and conflict within the group are judged by group members with this barometer of relative morality: is there still agreement?

- About the direction of beneficial changes, and about how quickly these will be realized?
- To minimize conflict and follow the rules?
- About cooperation in the second-level spheres within the group?
- About acceptable levels of Openness, Honesty, Respect, Generosity and Commitment?
- That apparent risks are being faithfully addressed by members?

The barometer of Relative morality is always changing because rules continually change, new information changes the vector of beneficial change, and agreements change about all the above points. This contrasts starkly with Absolute morality: the imperative to continually seek truth as information increases and expands. Agreement involves common faith between members

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that their overall intentions will create beneficial changes, faith that rules and agreements which have been made support these intentions, and faith that members are addressing change and new intentions in a cooperative way to realize the groups' overall intentions. Agreement doesn't require particular information aspects to be true, it only requires members to accept that the aspects support their group's overall intentions.

What is special about the third sphere? The *proximity of group members* and the fact that *this sphere is layered directly over all of the highly rich and vital second-sphere relationships between members*. These factors create the same rich communications available to second-sphere relationships, where many modes are available and communications are exchanged rather rapidly, reducing uncertainty and other types of noise. People have higher confidence the information shared has been received by each member correctly, and when it isn't, the rules which result from the naturally ensuing conflict are used to forge new agreements: the goal is to increase cooperation within the group, even though individual or pair behaviors are often more restricted by the new rules. Individuals and pairs often agree to suborn their newly restricted intentions for the benefit of the larger group, often in light of perceived common risks and the responsibility of each member to reduce the risks.

A third sphere is often focused on a specific set of intentions, as opposed to the universe of intentions that each member or pair may have. Reducing the scope of the relevant knowledge-set and rule-sets in turn enables more cooperation and less conflict. There are few types of third spheres which regularly contend with the whole universe of intentions under its umbrella, and these special cases of the third sphere provide more insight into vital characteristics of the third sphere. A family is often in this situation, where everyone's intentions collectively can affect the survival and success of the family. Another type is a platoon of soldiers engaged in warfare: they are involved in particularly risky endeavors, often daily, and they depend heavily on agreements and information-sharing for survival. They are in constant physical proximity for extended periods of time, which furthers more rich communications and group coherence about their knowledge-set and rule-set.

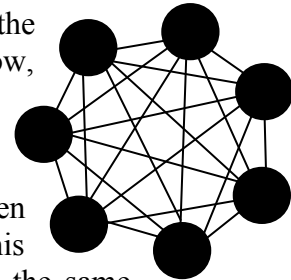
To give us an idea of the scope and complexity of third sphere information dynamics, let's view the relationships involved and the potential intentions. Let's assume each individual has up to 100 active intentions, some very conscious, compelling, or critical to survival, others more trivial such as deciding what food to share for dinner. An individual can only process up to 7-15 parameters about any intention depending on their intelligence and their active efforts to extend their knowledge about the intention, as established by analytical hierarchy research. Therefore, our assumption of 100

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active intentions means the knowledge-set and rule-set of an individual has 700-1500 active elements, some of which are aligned and some of which are in conflict. In a second-sphere relationship, a pair of individuals, then the theoretical maximum of intentions is 200, and the maximum information being processed would be 1500×2 , or 3000 active elements. Now, this pair will seek to increase cooperation so that mutual intentions are fulfilled and each is more or less supportive of the others' intentions.

Compared to 3000, the absolute minimum number would be if the one person could possibly be aware of, and agree with, all of the other's intentions and have no additional intentions of their own -- but we know that can't be possible. Even if the person declared their overall intention is to be continually in alignment with the other, we have much noise at hand – the other couldn't simultaneously have the same misalignments between these intentions, the same internal conflicts, nor could all of these elements be communicated so purely that there is zero noise about how to interpret and comprehend the other's intentions. So, let's say that of the 200 intentions between the two people, half are in alignment, and half of the information elements of these are well-communicated: so there is agreement about 100 intentions and 750 elements, which reduces the total information from the maximum to 2250 elements. More generously, let's say many of these intentions aren't as complex as others, having more like 5 elements than 15: the resultant range is approximately 750 – 2250 elements. Picking the midpoint to proceed with the escalation to the third sphere, we're back to 1500.

Now, if we pick a relatively small third sphere, **7 people**, then there will be $7^2 + 1$ relationships in this third sphere, or 49 pair-sets, plus one for the third sphere: 50 relationships as depicted in the figure. Again now, the theoretical maximum of elements, even using the midpoint above, means that up to 75,000 information elements are at hand. If the whole purpose of the third-sphere is to have common intentions and create cooperation, like the family or the platoon, then perhaps many of these are really the same: redundant in this accounting. A family or platoon should have the same culture, the same rules, and the same environment – they are often in close proximity. Perhaps there is 80% overlap, that would be very generous. This leaves an information set of **up to 15,000 elements** for this group to contend with.



We can see why most third-spheres usually form with an intention to focus tightly on very few intentions, why they have limits or rules governing the extent of interpersonal relationships such as professional behavior guidelines. The intention of rules such as these are to limit the noise in the channel of third-sphere communications spilling over from second-sphere relationships. However, these will evolve in any new group. In fact, these will eventually dominate a third-sphere group! – If not the agenda, then the

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processes by which objectives are undertaken and accomplished. Famous are the anecdotes of actual war-fighting platoons: its clear that in the heat of battle, their primary objective is the survival of their comrades, even though the reason they are there in the first place was their third-sphere agenda. Perhaps with luck and a tight governance, another 80% reduction in noise is possible, but this still leaves **1500 elements** of information for the group to contend with in common – a highly complex situation at best, and equally as complex as the amount of information most individuals are handling on their own, about their own intentions. Our analysis to this point shows that a small third-sphere group can act and succeed, *if they are very highly effective*, as if they only have as many intentions as just one individual, and their collective behavior is only as complex as any one of its individual members. Many have enjoyed the brief moments when they are participating in a team effort, and its seems to all that they are acting with one mind, as though anticipating each others thoughts and actions, so that the group moves with the efficiency of a single organism.

When the group gets large, such as **12 people**, the number of information elements at hand increases exponentially: in our example, the number increases from 1500 to **8700 elements**. More people means there will be less coherence (identical, redundant intentions) between the individuals. If the groups coherence reduces to 50%, it gets worse: **21,750** elements. More people means it will be more difficult to establish effective, consistent rule-sets that don't change very often: effective governance. If the groups' governance degrades to 50%, worse still: **54,375** information elements.

Don't forget, information is constantly increasing and rules are constantly changing. In order for the group to contend with this much information at any given moment, people in the group are normally empowered to deal with much information as they can handle on their own, so that the group only focuses on information they absolutely must share and create agreements about. **Trust** is critical: that each person is handling their share of the information in a responsible manner, this is critical to the success of the group. However, it is inevitable that communication problems will arise due to noise, and trusts between pairs or between the group and an individual will degrade. Guess what, the outcome is more rules and more stringent enforcement or punishments, up to removal of un-trusted individuals from the particular sphere at hand, sometimes with violence and great impact on second-sphere relationships. There can also be great impact from these changes on each individual, increasing their uncertainty about how their inevitable transgressions will affect their lives and relationships. **Openness, Honesty, and Respect** are the foundation for **Trust**, which can only be sustained by **Generous** actions by individuals to realize the intentions which they are empowered to deal with, and **Commitment** to fully realize these intentions.

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What we see, then, is that successful third-sphere groups have some clearly communicated intentions about how they will handle noise. Rules are inevitable, but a successful group will resist the common reaction to noise, creating rules, because each rule creates more complexity without necessarily increasing knowledge. Mistakes resulting from communication problems are inevitable, but a successful group will resist the urge to create rules or allow Trust to degrade. In the face of noise, communication problems, then:

Successful Groups ***Increase Clarity*** among group members about the key commonly-held Intentions of their third sphere. There are myriad ways to reinforce the reasons why the group is here, to refocus people on their group objectives. At the fourth sphere level, we'll see why this communication process results in establishment of rituals among other things.

Successful Groups ***Improve Transmission Speed*** so that information that needs to be shared is available in a timely manner. Some noise results from uncertainties created when there is a heterogeneous information flow in a third-sphere group. As group membership becomes more complex, and as second-sphere relationships form and evolve; when an Intention doesn't flow simultaneously to all members, but weaves through a network of second-sphere relationships; some members receiving the message later than others will have some uncertainty on several levels, just because of the uneven Transmission Speed. Are there hidden agendas, are sub-spheres emerging, or are second-sphere issues dominating the third-sphere agenda?

For example, let's say a family member creates an Intention, "I'll have a ham sandwich!" Now, the second and third-sphere information dynamics begin: first, resolve uncertainty about whether anyone else will want a ham sandwich or another lunch? Ask one family member who likes ham first? Okay, they want a ham sandwich too. Now, ask a second member, who doesn't like ham? Their reaction could range between: 1) "No, I'm not hungry, to 2) Yes, I'm hungry, but I'll make my own lunch, to 3) Yes, I'm hungry, and would like a sandwich, but just cheese and tomato please, to 4) Yes, I'm hungry, but why didn't you ask me first? Was including me an afterthought? After all, I can't eat a ham sandwich, now can I? You're just asking me to relieve your conscience, you weren't really thinking about me, now were you? Otherwise, you'd be making something we could all eat, now wouldn't you!?"

Another common instance of this issue has been made more obvious by email: as an issue becomes more serious, more people are added to the distribution. What may have started as a two-person message commonly evolves to multiple people, initially within third spheres. People joining a message chain relatively lately often complain about not being "in-the-loop" earlier.

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So, successful groups will do what they can to improve the Transmission Speed, or really the homogeneity of speed between recipients, to all members, so that all feel like they are involved and aware from the beginning. Again, a very highly effective group will create this sensation rather often, and merely successful groups as often as possible. The successful group should create some awareness and agreement between members to both endeavor to communicate rapidly, as well as to building trust and tolerance for information handled at a first or second-sphere level, without immediate third-level awareness, and trust and tolerance for messy communications through the second-sphere network. Again, there are myriad ways available which people use to keep this type of problem in perspective. At the fourth sphere level, we'll see how this problem becomes more destructive within organizational structures, and spawns rules by the thousands if not millions.

Successful Groups **Create Noise Awareness**: it has several sources, and many have the effective result of limiting the Transmission Speed of a message in its distribution. Noise awareness is really tolerance for noise – resisting the urge to allow uncertainties to emerge. Often, uncertainties take the form of bogus Intentions: reasons considered by recipients about why the message is so noisy or was received late in comparison to others. These uncertainties will create immediate conflict; not only is the recipient distracted by their wild goose chase into resolving bogus Intentions, but future noise may trigger even more impedance. At the fourth sphere level, we'll see how this problem shapes the processes of politics – the art of aligning some intentions in cooperative behaviors while maintaining conflict on other intentions and uncertainty about still others.

Successful Groups **Create Healthy First and Second Spheres**. A third-level sphere has great dependencies on its members' generosity and commitment to the third sphere objectives. Successful groups respond by in turn showing generosity and commitment to each member (first spheres), and each important second-sphere relationship. Each first sphere is important, especially those with more capability for information expansion by the third sphere. Likewise, second spheres will be perceived as needing more or less support in accordance to their contribution to information expansion **by the third sphere**. Sometimes, a key second sphere is a leadership-sharing pair, or one with particularly high resources. Other times, it's a relationship key to the integrity of the third sphere – without it, the third sphere may collapse. Members contribute by handling some of the group information flow, processing and increasing information in **quantity, concentration, and complexity**, and/or performing some role in information **distribution**. People often pair off in a group to focus on some key aspects that are best handled by few people but are too large for one person. Second spheres seen as a

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information hub or lynchpin will receive more generosity and commitment from the third sphere, and these members will receive more generosity and commitment from other individuals in their other second-sphere relationships. When a key member or pair in a group is overloaded or evolves some seriously conflicting Intentions, then a successful group will respond by increasing its generosity and commitment: splitting duties among more members or pairs, or creating a new third-level sphere to handle the information. In a successful third sphere, agreements are agile, made in trust with good faith about member's Intentions, and re-formed as soon as the group finds itself veering from the vector of beneficial change, the group's objectives. At the fourth sphere level, we'll see how this phenomena leads to social behaviors for competition on the one hand, and on the other: to promote cooperation and protect weak from strong members.