A Practical Inquiry into the Perception of Coincidence

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Introduction

The ability to recognize coincidence is a standard tool in understanding one's surroundings, and it's employed on a daily basis. Objects relate to one another in some casual way, such as occupying the same place, and then they also relate in some unusual way, such as sharing some quality.

EXAMPLE. Two die are rolled, and they both land on a six.

Their placement is casual because there's no apparent directive that would ensure they're placed in a particular way. It also allows for their comparison by other factors, by which they might relate and inspire the observer to notice. Upon noticing this relation, the observer intuitively seeks other relations the two objects might share, as these relations can be consequential to the observer's interests.

EXAMPLE. The die are weighted.

One has an intuition of balance among all the probabilities of events one passes each day. Some events are less likely than others, and the number of unlikely events decreases with how unlikely they are. There should not be too many unlikely events, or else they don't fit in the balance, and somehow they must not be as unlikely as they seem. This intuition is exceptionally stable. As unlikely events continue to occur, one is forced to re-evaluate what is normal and physically possible, and will seriously question all that is known to be real before doubting the balance of the probability of events. There is nothing more disturbing than a series of absurdly improbable events with no imaginable cause.

The environment that supports the event appears contrived, and the arrangement of objects appears not so casual after all. The observer may reveal some hidden cause that directed the event, or simply disregard the event with the assumption that some cause exists. In either case the event is not so improbable as it appears. As events continue to occur, it becomes more important to understand their cause, and as explanations fail, wilder explanations are considered, imposing wider environments and more distant causes.

As the improbability of a coincidence continues to increase, or as these events continue to occur, the objects begin to fade; coincidence becomes less a relation of objects, and more an object in its own right. In this practical inquiry, we establish elements that make coincidence in general an observable phenomena. The refinement may help to understand those coincidences that serve only to distort one's conception of the world.

1 Observation

To formulate a definition of coincidence, some supporting concepts are first introduced that relate to observation. We use common words, but give them local definitions that fit the context of coincidence, so there are small deviations from the regular usage.

Thing   A thing requires some potential to be recognized by an observer. It's the same, whether or not it's being observed. A thing can be a collection of things.

Observer   Anything with a sense of awareness can be an observer. Humans, animals, and perhaps other things have awareness, depending on how awareness is defined. The discussion is avoided here, and we assume the observer is human.

Object   An object is a thing that an observer is presently aware of. If a thing is not being observed, then it is a thing, but not an object. Being an object is not an inherent quality of a thing, but a state that depends on its relation to an observer. On the other hand, a thing that is observed more than others has that inherent quality of being so well recognized. Even still, any singular observation depends on the engagement of the observer.

    EXAMPLE.   A prominent volcano is well known among the local residents. The volcano erupts and buries the village in ashes, and is no longer seen.

Sensual object   Sensual objects can be recognized by the five senses. They are familiar, physical things that occupy the observer's immediate surroundings. Knowledge complements the senses so that things may be recognized with relatively little input from the senses. Some things are physical and require some sense to recognize, but require a great depth of understanding to interpret from raw sensual input.

Abstract object   Some things are known to be physical, but can't be grasped by the senses. They are represented with symbols, and one's memory of sense can help to grasp their physical nature. Other things are not physical at all, and are known exclusively through symbolic representation. These things we call abstract. A symbol is a sensual object that represents an abstract object.

    EXAMPLE.   A scientist takes a water sample to measure the proportion of minerals. The perception of water is sensual because it can be seen and

felt, and the perception of minerals is abstract, because the minerals are represented symbolically after analysis.

> EXAMPLE. A child reading a book intended for an older audience may not connect the words to the sensual objects they are intended to represent.

Environment   An object is surrounded by its environment. The extent of that environment is defined by the observer's awareness. Any thing in that environment is potentially an object to that same observer. A typical environment is one's immediate surroundings, which are recognized primarily by sensual input. It can be defined arbitrarily, perhaps including objects from very different times and places. It may live in the observer's memory, and consist entirely of abstract objects.

> EXAMPLE. Explorers embellish an unfamiliar environment with abstract objects. Immediate surroundings provide sensual objects. A map of known territory represent other, more distant parts of the environment. Navigation tools predict unexplored territory.

Being an environment is a state of a thing, or collection of things, just like an object is a state of a thing. Any object may as well be an environment, and vice versa, depending on how it's perceived. The environment may include the observer, and the observer is potentially an object. The object may be aware, and observe the observer. The environment may contain only one object, which is the object, the environment, and the observer all at once.

> EXAMPLE. A line is drawn on a piece of paper. The observer probably recognizes the line as an object, and the paper as an environment. Perhaps the line is a particular figure, and the observer is drawing it on many different pieces of paper to get the figure just right. Then each paper could be recognized as an object in a greater environment consisting of papers and figures.

Open and closed   An open environment consists of things that may come and go without the observer's discretion. The things in a closed environment are entirely known to the observer. Environments are often both open and closed to some degree, but may be characterized one way or the other for practical purposes. A closed environment might be controlled or set up by an observer, or simply known to the observer and controlled by something else.

> EXAMPLE. A traveller in a passenger train recognizes an open environment of surrounding passengers, who are often strangers coming and going from all sorts of places unknown to the traveller. The environment is closed from

the conductor's perspective, because each passenger is registered when they purchase their ticket.

Inherent quality A thing has various qualities that characterize it, or give it definition. These are all inherent. They don't depend on the observer, since a thing may or may not be observed. Given a thing assumes the state of an object, we say an object has inherent qualities, because they are the same qualities that characterize the thing.

Environmental quality An environmental quality is a quality of an object that depends on other objects in the same environment. In the context of coincidence, an environment is defined with respect to the observer, so an environmental quality can only belong to an object, or thing that is observed.

Observational quality An observational quality is a quality of an object that depends on the observer. Being an object is the fundamental observational quality. An observational quality may involve other inherent or environmental qualities.

> EXAMPLE. A soccer player focuses on a soccer ball. The ball has a circumference of 69 centimeters. This is an inherent quality. The ball has a perceived visual angle, which depends on its distance from the soccer player. This is an observational quality. The ball has a weight of 430 grams. The soccer player considers this an inherent quality. From a different perspective, it's also an environmental quality, because weight is measured with respect to Earth's gravity.

Relation Objects are related if they share some quality. If they share an inherent quality, then they have an inherent relation, and similarly for environmental and observational qualities. Objects involved in a coincidence are related by observation, or have an observational relation. A relation can relate a set of objects that share the same quality. A relation is an abstract object.

Type A type is a collection of qualities that characterize a thing. A type of thing refers to any thing that possesses all the qualities that comprise the type. An instance of a type refers to one of these things, and can still have other qualities that distinguish it from other instances. Since a thing can be an object or an environment, there can be a type of object or type of environment. A type is itself an abstract object.

> EXAMPLE. Let $T = \{t_1, t_2, ..., t_m\}$ be a set of qualities an object may possess. Let $A_T = \{a_1, a_2, ..., a_n\}$ be a set of objects such that every $a \in A_T$

possesses every $t \in T$. Then T defines a type of object, and A_T is a set of instances.

EXAMPLE. A lake in Minnesota is a type of object. Qualities that comprise this type include, but are not limited to, being a lake and being in Minnesota. Lake Whitefish is one instance. A lake in Minnesota could also be a type of environment that defines what things are in it.

Common and varying quality Consider a type defined by a set of qualities. Although they are only common qualities that define the type, these common qualities can implicitly control those qualities by which instances may vary. We refer to them as varying qualities. A type may allow infinite or finite varying qualities.

EXAMPLE. An access control policy determines what users have access to a given resource. If the policy states that no users are allowed except for those listed explicitly, then the number of users is limited. If the policy allows all users except for those listed explicitly, then the number of users is unlimited, at least with respect to the policy.

Objective observation An observation is objective if it's the same for all observers. It doesn't depend on the observer's perspective. The observation may include any inherent quality of the object.

We preserve the usual meaning of objective observation, at the cost of some ambiguity. The word "objective"doesn't inherit any meaning from the way "object"was defined earlier.

Subjective observation An observation is subjective if it depends on the observer's perspective. All observational qualities are subjective. An observer may intend to focus on a particular thing, but other things in the environment interfere and become objects too, without the observer's intention. These other things may vary by the observer's perspective, making the observation more subjective. A subjective observation may yield environmental or observational qualities that happen to be consistent among a group of observers. This could lead observers to conclude the observation is objective, and misinterpret the qualities to be inherent.

EXAMPLE. Sensitive instruments are used in experiments to exclude noise, or undesired objects, from an observation. Radio telescopes can observe during the day as well as night, but also get interference from radio signals used for communication.

The existence of the observer implies an observation is ultimately subjective, and therefore no observation is completely objective. However in practice, objectivity can be attained to a sufficient degree. The objectivity of an observation is established by more observations, perhaps by other people, which yield the same results.

object	sensual	abstract
environment	open	closed
observation	subjective	objective

Relative objectivity   Objectivity is not an obstacle with respect to a closed environment, where every thing in the environment is already completely defined. An observation may be objective with respect to the closed environment, and still subjective with respect to a greater, open environment.

EXAMPLE.   A corn maze has a tower at the center, so people who reach the center can climb up the tower and see the entire maze from above, as well as the path to get out. They have an objective perspective of the maze, because they can see all the different paths to take. Their perspective of the corn is subjective, since they are missing out on some detail being so high above the ground.

Event   An event is an observation that includes one observer, one environment, and at least one object. Given the observer is human, an event necessarily happens in real life. While abstract objects aren't physical, they can still participate in events, because they are conceived by the human observer. Events are things, and there may be types of events.

EXAMPLE.   An annual holiday is a type of event, and each year is an instance. The type of event describes what happens every year. The year in which each event occurs is sufficient to define each instance uniquely. Depending on what detail is available to the observer, there could be many other qualities that differentiate each instance.

Coincidence   A coincidence is an event involving objects that are related in some unlikely way that is not explained by their environment.

EXAMPLE.   A customer at a store picks out a bed sheet having a certain deep blue color. Then he stands in line at the cashier, and the person next in line is wearing an outfit that is the very same color from head to toe. The objects are the bed sheet and the outfit, and the quality is the deep blue color. The observer is the customer, and the environment is the store. The bed sheet and the outfit are related for having the same color and for being seen by the customer. They present a coincidence, because having the same

color doesn't suggest any explanation as to why they are seen together. For example, if the customer chose a grey bed sheet instead a of blue one, this wouldn't make the next person in line more likely to be wearing grey.

2   Chance

We continue with what it means to be unlikely, what the missing explanation is, and why it's usually expected. The concepts of type and instance are used frequently.

EXAMPLE.   Names are written on pieces of paper and put in a hat. The type of event is someone drawing a name from the hat. The type of object is a piece of paper with a name written on it. The type of object doesn't specify which name is written, and the type of event doesn't specify which paper is drawn from the hat. An instance is a particular paper drawn from the hat, such as a paper with the name "Gerald" written on it.

EXAMPLE.   Aaron has a CSA subscription to get a box of vegetables once a week. Every week it's the same box for the same price, but a different assortment of vegetables. Getting a box is a type of event, and the box of vegetables may be interpreted as a type of environment. The vegetables inside are types of objects within the environment. Each week there is a different outcome.
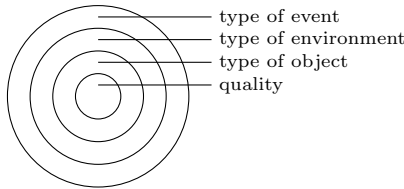
Randomness   Let some environment be defined by the type of object it contains. Let X be a quality that defines that type, so every object in the environment has the quality X in common. The objects also have a unique quality Z, Y, E or A. It is the quality X that allows for the comparison of these objects by their other qualities. Randomness is the resulting inconsistency that is observed. Randomness is an environmental quality, since it depends on how objects in an environment relate.

Objects with quality X
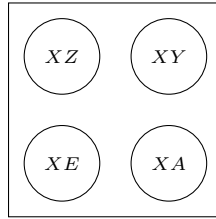
Consistent: $XXXX$
Random: $YZEA$

EXAMPLE. A database holds customer information, and there's a file for each customer. Files are sorted by name. For customers that have the same name, files are sorted by the date the account was created. A new database user may be unaware of this, and to them it appears the files having the same name are sorted randomly.

EXAMPLE. A DMV is busy on a Saturday, with many people waiting in line. Everyone there has an issue pertaining to their license or registration. Asking someone if they want to drive will produce a consistent answer. Asking someone what their name is will produce a random answer.

An environment defined by a type of object contains different instances of that type of object, and the different instances may be compared. Another way to compare differences is to compare multiple outcomes from the same type of event.

EXAMPLE. A type of event is flipping a coin. Every instance of the event involves a coin being flipped, but some have heads and some have tails. A hundred instances of the event produce a hundred outcomes. Alternatively, one environment may include a hundred coins, with one event in which every coin is flipped. Then one event produces one outcome with a hundred heads and tails.

Consistency Consider a type of thing that allows for finite varying qualities. The number of instances may be compared to the number of varying qualities. When there are few instances and many varying qualities, the instances will appear random. Conversely, when there are many instances and few varying qualities, the instances will appear relatively consistent. Consistency is an observational quality, because it depends on the observer's interpretation.
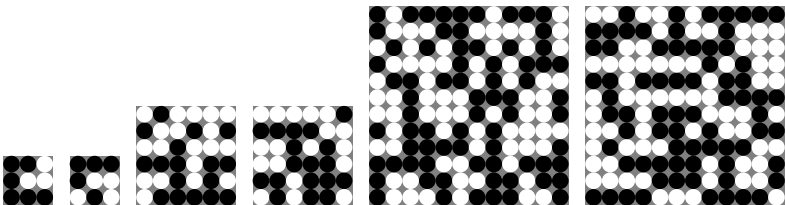
In the preceding figure, each square is an environment, and each circle is an object with either of two varying qualities, black or white. The pair of squares on the left are two instances of the same type of environment. The distribution appears random, and also makes the squares easy to distinguish. The pair in the middle has more instances, and just as many varying qualities. The pair on the right has far more instances than varying qualities, and consequently the two instances appear fairly consistent.

EXAMPLE. A cafe has a soup of the day. First time customers ask what it is and have no idea what to expect. A regular customer has been ordering it for years and knows it will be one of about seven recipes.

EXAMPLE. There is an old growth forest that spans fifty square miles. The density, or number of trees per square mile, is consistent across the whole forest, while the distance between any tree and the tree closest to it may vary.

Pattern Any consistency among objects in an environment we refer to as pattern. The basic unit of pattern is two objects that are compared and share the same quality. One pattern can involve any number of objects.

EXAMPLE. A hiker spends the day hiking through a forest, listening to ambient sounds coming from the wind, insects, streams, and other sources. At one point he hears a woodpecker. The woodpecker hits the tree with its beak many times in succession at a regular interval. The hiker recognizes this pattern and knows it must be a woodpecker. His encounters with woodpeckers seem to occur at random.

Arrangement If pattern is caused intentionally, we refer to it as arrangement. Arrangement may be due to any single, identifiable cause. The pattern identified within a coincidence may be explained by some human activity, or a tendency of nature to act a certain way.

Accident Pattern that isn't arranged is referred to as an accident, or accidental. This kind of pattern isn't maintained, so it doesn't tend to last. It's possible some pattern may appear, and the observer can't tell if it's arranged or by accident. Accidental pattern is luck, be it good or bad.

EXAMPLE. The regular succession of wood pecking is an arrangement by the woodpecker. If the hiker hears two woodpeckers in one day, when he usually hears one every few weeks, he may assume it's an accident if there doesn't seem to be another cause.

How does pattern emerge by accident, or without being arranged? The cause is comparable to consistency. Consistency increases when the number of instances increases with respect to the number of varying qualities. In the black and white circle example, the number of circles increases and the number of colors is always two. Accident happens when the number of varying qualities decreases with respect to the number of instances. With fewer qualities, objects that are compared are more likely to share the same varying quality.
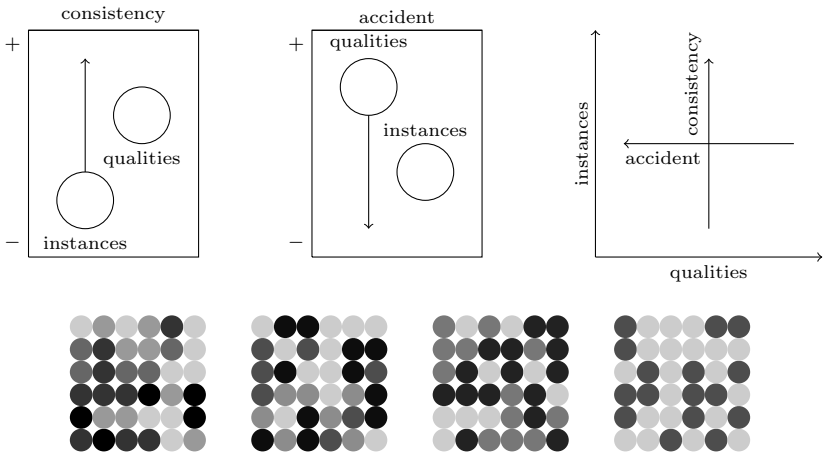
The four grids above each have thirty-six circles, colored in varying shades of gray. From left to right, the number of shades is five, four, three and two. Also from left to right, the number of varying qualities decreases with respect to the number of instances, and the number of accidents increases. The observer naturally compares adjacent circles and finds many such pairs share the same shade.

> EXAMPLE. People in small towns are more likely than people in big cities to run into familiar faces when they go to the store. There are fewer varying qualities, because there are fewer people. There are the same number of instances if we compare people in small and big cities that shop just as often.

People distinguish between arranged and accidental patterns all the time through their regular daily activities. A lot of problems are recognized or acted upon once something happens too many times to ignore. Small patterns may be arranged or accidental, and as patterns increase in size, the more likely they are arranged. When is it time for one to act upon the assumption that a pattern is arranged? This question may deserve careful consideration depending on the context. The answer may

depend on reaching a certain degree of certainty, or the severity of some consequence.

EXAMPLE. A commuter cyclist knows that in the months of May and June, it may rain at some point on his commute regardless of the weather forecast. It doesn't happen very often, so if it's sunny when he leaves for work, he won't bring rain gear and accept that one in a while he'll get rained on later in the day. However in January it rains almost every day, so he brings rain gear even when it's sunny when he leaves for work.

EXAMPLE. There are twenty students in a classroom, and five of them have a name starting with the letter D. Five are selected at random to read from their textbook, and they happen to be the five whose names start with D. Even though the event is very unlikely, there is no obvious cause, and it's rather inconsequential, so some remarks are made regarding the unusual sequence of names, and they proceed to read from the textbook.
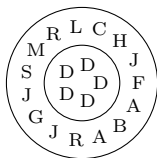

Identifying the source of an arrangement is the only way to know with complete certainty that a pattern is arranged and not by accident. Otherwise, a degree of certainty is reached by estimating the probability of a given pattern occurring by accident. If the probability is below some threshold, then one may act upon the assumption that the pattern is arranged without caring to identify the source.

EXAMPLE. In a game of dice, a player rolls five dice and would ideally have them all land on the same number. The consistent number is an accidental pattern. A player may be having a lucky night, and their rolls frequently land on the same number. Since this kind of pattern isn't controlled, there is no expectation that the luck will continue. The longer it continues, the more other players are tempted to look for some hidden arrangement by the player.

EXAMPLE. A cashier is sitting in the back room, because there are no customers. Bells on the door sound if someone walks in. There is no sound for at least half an hour, which is an unusually long duration without customers. A delivery driver walks into the back room, alerting the cashier of the line of customers waiting to be helped. Apparently the bells aren't on the door anymore. The long duration is a pattern that the cashier fails to act on.

Improbability   The improbability of a pattern increases in two ways. One way is when the pattern is extended by more instances that share the same quality. The other way is when the number of varying qualities increases, so that instances are less likely to share the same quality. Compare flipping a coin to rolling a six-sided die. The coin has two varying qualities, and the die has six. Flipping a coin five times and having it land on the same side every time is not as improbable as doing so with a die. On the other hand, coin flips can be more improbable than die rolls with a greater number of instances.

| outcomes with same quality	1	2	3	4	5	6
improbability						
- coin toss	1	1/2	1/4	1/8	1/16	1/32
- die roll	1	1/6	1/36	1/216	1/1296	1/7776
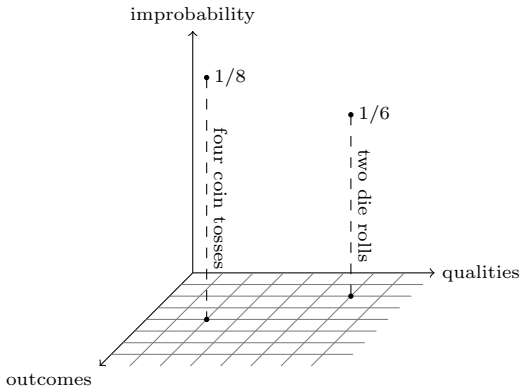
Consider an object that has not two or six varying qualities, but a hundred or a thousand. Then having the same outcome happen just two times in a row would be far less likely to happen by accident. Many examples may be found among personal encounters.

EXAMPLE.   Ed runs into Pat at the flea market, and they haven't seen each other for a few months. They catch up and Pat mentions she's going to Anchorage on vacation next week. It just so happens that Ed grew up in Anchorage, and is able to give Pat some recommendations. As far as Pat is aware, Ed could have grown up in any number of places, and as far as Ed is aware, Pat could have chosen from any number of vacation destinations. The match among so many varying qualities, combined with the rare instance of running into each other, causes some surprise.

EXAMPLE.   Tom meets Steve at a show in St. Louis and they start talking because they both lived in San Diego. Steve mentions someone named Consuelo, and Tom also happens to know Consuelo. They keep talking about

how they know her but find nothing else in common besides being in San Diego, so recognizing this mutual acquaintance appears very random.
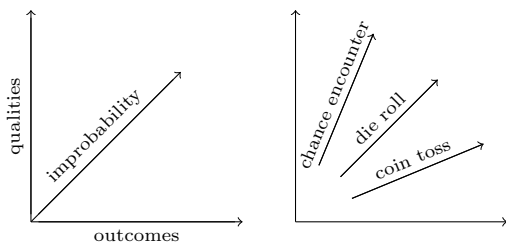
EXAMPLE.   Pam goes to a cafe every few days, and for about a month, almost every time she orders coffee, the barista has just run out and needs to make a new pot. It happens often enough that the barista comments on the coincidence. A type of object is a customer that orders coffee when it runs out. A varying quality is who the customer is. Different instances could be distinct customers or the same customer, such as Pam. Running out of coffee just as a customer orders it doesn't happen a lot, and the cafe has many customers, so improbability increases sharply when it keeps happening to Pam.

3   Causality

We continue to study what the missing explanation is in a coincidence, where objects are related by some quality and by observation, but there is no relation between the quality and the observation. In the previous section, we explore chance as a potential explanation as to why objects are observed together for really no reason at all, except sometimes it just happens owing to randomness, and in particular, accidental pattern. In this next section, we study causality as a complement to chance.

Causality   A coincidence may be explained by either chance or causality. Chance refers to accidental pattern, or the possibility that any two objects may appear together at random once in a while, whether or not they share some other quality that would support a coincidence. Causality refers to some evidence that supports the likelihood that the given objects are observed together.

EXAMPLE.   Grace teaches her grandpa how to play the card game War, and explains the rules are as follows: After half of the deck is distributed to each player, the players go through rounds of drawing the top card from their respective decks and comparing them. Whoever has the card with the higher value takes both cards and adds them to the bottom of their deck. This repeats until someone has all the cards. If the cards that are compared

are the same value, a second pair is compared, and whoever has the higher card takes both pairs of cards. If the second pair is also the same, then a third pair is compared, and so on. Grace and her grandpa begin to play and the first pair they draw are the same. The second pair are also the same, and the third, and so on until both their decks are exhausted. Grace is astounded by the unlikelihood of events, and her grandpa doesn't attempt an explanation, so she regards the event as a coincidence.

In this example, chance fails to suffice as an explanation, and an explanation by causality isn't recognized by the observers. However the explanation can be recognized by us now: The deck was a new one that had never been shuffled, and the cards were in order by value. The deck was distributed to each player one card at a time, and the respective piles were kept in order as cards were distributed. That way every pair of cards matched. The explanation by causality leaves nothing to chance; not only was the outcome not unlikely, but it was certain. More often, explanations by causality are an accessory to chance. One will find an event so unlikely that it's unbelievable, and then find some explanation that makes it believable. It will still be unlikely, but not impossible.
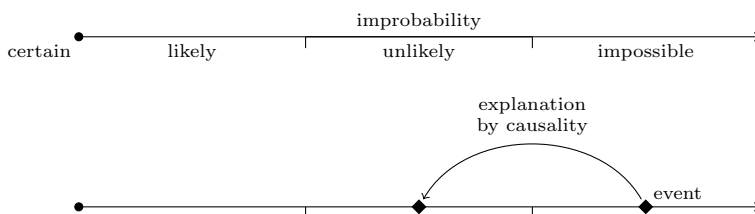
EXAMPLE. One estimates that the odds of some event happening is one in a million, and then after further consideration of the surrounding circumstances, one re-evaluates the odds as one in a thousand. However one may remain skeptical and unwilling to disregard the event as an accident, because it caused one to lose a lot of money.

Hidden quality Causality explains why objects are related by observation. Going back to the definition of a coincidence, there is some apparent quality that relates objects, which doesn't explain their proximity to each other. Causality may explain how that quality actually does explain their proximity, or it could reveal some other hidden quality that relates the objects, which in turn explains their proximity.

EXAMPLE. Two guests at a hotel have adjacent rooms, and both of their tubs are backed up. The environment is the two adjacent rooms during the same time, the objects are the tubs, and they are related by being backed up.

A plumber arrives and finds a sufficient explanation by causality: the tub drains converge, and the clog is past the convergence, so the clog affects both tubs. The explanation reveals some hidden quality that relates the objects, which also explains why they are related by observation.

EXAMPLE. Esteban's phone is beside him on a table. It starts to ring and then the battery dies. It was an important call, and he feels haunted by his bad luck. He tries to always keep the battery charged, and while it will still die once in a while, that it should happen right when he gets the call appears as a coincidence, because it's hard for him to accept an explanation by chance, and he is unaware of an explanation by causality.

In the last example the objects are the incoming call and the battery dying. The environment may be the phone during the brief moment that it rings. The quality that relates the objects is the phone, which requires battery life to take the call. An explanation by causality is that calls drain the battery faster than just sitting on a table. If Esteban recognizes this, he may find the probability of the event believable, even if it's still unlikely.

Human intervention An event may be set up by other people to appear to the observer as a coincidence. This is referred to as human intervention. The intention of those who intervene is to obscure the explanation as to why related objects are seen together. Such a coincidence is unique in that some effort was made to create it, whereas other coincidences appear naturally, either by chance or by the observer failing to recognize another cause. Explanation by human intervention can be tempting to the observer when other explanations fail to materialize, but can also be unlikely due to the extravagant resources they would require.

EXAMPLE. A man on the street is confronted by the police after they see him jaywalking. They search him and find an unregistered gun and illegal drugs. He ends up being charged with possession.

The objects here are jaywalking and possession. The quality that relates them is the offender. Since jaywalking doesn't necessarily imply possession, the man appears to have bad luck for possessing at the time of the confrontation. Then again, chance doesn't quite suffice as an explanation for the coincidence. An explanation by human intervention proposes the police were familiar with the man beforehand and knew there was some likelihood that he would be in possession, hence they were motivated to enforce the jaywalking law as an opportunity to search him.

EXAMPLE. A furniture store hires actors to pose as customers and covertly test the employees on their quality of service. Nat from the bedding department tries to pick up on subtle actions from customers to tell if they're acting or not. While it would help Nat on his audits to tell who was testing him and who wasn't, trying to pick up on these subtle actions every time he interacts with a customer takes his attention away from other tasks.

EXAMPLE. Some hooligans try breaking Geoff's bike lock to steal his bike. They fail, but the lock cannot be opened and Geoff must call a locksmith. As he waits for the locksmith to arrive, a woman parks her car next to the bike rack. She gets out of the car and starts walking around it and talking to herself rather loudly. She opens the trunk and the hood and walks back and forth between them as if to change the oil, but doesn't seem to be making any progress. Geoff observes the coincidence: The objects are him waiting for the locksmith and the woman's display, and the quality that relates them is Geoff's fate to be stuck in both situations. Both events are very unusual in his daily experience, so he's skeptical that their concurrency is owing to chance, and considers in what ways the events could be contrived.

Perspective   The observer can relate personal experiences that would otherwise have no relation. An environment may be defined as the union of different places and times, so long as the observer is aware of both of them. This kind of patchwork environment might only be visible to the observer. Making arbitrary decisions about how the environment is constituted may also introduce bias. An explanation of the coincidence might incorporate tendencies of the observer to look in some places and not others.

EXAMPLE. Gerry moves to a new home and wants to complete her kitchen with a new jello mold. It should be round like a donut. The very next day she passes such a jello mold on the street as she walks to the cafe. She pauses to consider picking it up, starts walking again, and pauses once more. Just then a car pulls up, and someone gets out to pick it up. Gerry recalls an identical jello mold from four years ago that she saw at an antique mall.

There's a small coincidence where she considers picking up the jello mold on the street just as someone else comes to get it, since free piles don't usually attract so much attention. This coincidence could have also been observed by the driver or a neighbor. Only Gerry could recognize the coincidence that she was also thinking about getting a jello mold the day before. In this case the objects are the jello mold on the street and her desire for one from the day before. Their environment could be defined as whatever Gerry is recently aware of. That's a small space to recognize jello molds in two contexts that aren't otherwise related, so the accidental pattern is noticeable. Still she finds no other way their proximity could

be arranged. While she recalls the jello mold from four years ago, it's up to her if it actually makes the coincidence any more significant. If it appears that way, an explanation by causality could question how Gerry evaluates her environment. She may be underestimating the potential for chance encounters with jello molds.

Stress The observer has another role, not as a participant that has some effect upon the coincidence, but as a witness that is affected by it, or burdened by its strangeness. One incurs the stress of evaluating the coincidence, trying to find an explanation in order to resolve it, with success or failure. That stress makes the coincidence a sensitive issue, along with the objects that are involved and whatever quality relates them. Following the event, one is more likely to recognize other objects with the same quality in one's daily experience.

> EXAMPLE. Travis walks to the store on a cold and rainy day, and a few blocks away there's a mad man walking about and yelling. They approach the store's doors at the same time, and Travis offers him some money. A couple months later Travis sees the man again, and for the following month sees him nearby every time he visits the store.

It's conceivable that Travis and the man crossed paths before that cold and rainy day, but Travis didn't notice or remember him. After that first day, Travis would be more likely to notice and remember him, since they met and interacted. If it bothered Travis at all that the man was there, like if he seemed violent, then this could also cause Travis to be more aware of the man's presence. In this example an explanation by causality is Travis' growing alertness to the man's presence.

> EXAMPLE. Travis looks bad at work for saying something with a double meaning, because the unintended meaning is taboo. Later that day he gets stung by a bee. The next day his car battery dies, and the day after that he overhears someone say "a series of unfortunate events" in the same park that he gets stung. That weekend his date cancels.

The first three events are somewhat coincidental for being unfortunate. The fourth event is oddly coincidental, as hearing the phrase "a series of unfortunate events" isn't itself unfortunate, but it emphasizes that the first three events are coincidentally unfortunate. This makes Travis more likely to evaluate future events for how unfortunate they are, because then maybe they will continue to establish the coincidence.

Tolerance What is said of unfortunate events can be said of coincidence itself. One may continue to observe coincidences and attempt to

explain them with or without success. As failures mount, one becomes more familiar with coincidence in essence, which defies explanation and introduces an aspect of reality that is, inconveniently, both absurd and fundamental. With this growing familiarity, one is more likely to evaluate any daily event for its potential as a coincidence.

As coincidences continue to be recognized, finding explanations by chance or causality may become more routine and accurate. If explanations aren't found, coincidences can become disturbing and stressful, leading to issues like paranoia. Tolerance can be gained in two ways: One is to effectively explain coincidences by chance or causality, so they fit within one's normal sense of reality, and they don't distract from daily life. The other is the ability to cope with a growing accumulation of coincidences that cannot be explained. The observer might disregard them completely, or find some useful interpretation without being bothered by how they come to exist.

4   Conspicuousness

The Observation section introduces concepts that build up to the definition of coincidence, but those concepts aren't particular to coincidence. They describe properties related to observation in general. The Chance and Causality sections describe properties that are more closely related to coincidence. Even still, they regard events that may be reasonably explained by chance or causality. No properties are introduced that exclusively refer to the coincidence that cannot be explained and defies a normal sense of reality.

Weak   We call a weak coincidence any coincidence that can be easily explained by chance or causality. The common connotation of coincidence typically doesn't include weak coincidences, because they aren't remarkable. We still call these events coincidences because they involve the same elements, just in a less distorted or noticeable way.

> EXAMPLE.   A truck driver subconciously observes thousands of relations among cars passing on the highway every day, and over time develops an intuitive sense for the different types of cars, and how some types are less common than others. When a new model is introduced, seeing two cars of the same model in the same day may appear coincidental, but if the model becomes popular, such coincidences become gradually weaker.

Strong   A strong coincidence evades any reasonable explanation. Attempts invoke some distortion of one's normal sense of reality.   The

phenomena of strong coincidence demonstrates that one's intuition of probability is stronger than one's understanding of the surrounding environment. It demands that some undefined thing ought to reside within the environment, yet it fails to assume the state of an object, as if the environment has a hole or sudden edge.

Measure As the strength of a coincidence increases, the measure of that strength becomes less reliable. This is another kind of boundary that the observer cannot cross. It's comparable to measuring the distance of some far away object. A meter is visibly less than a kilometer, but a thousand kilometers and a million kilometers might be equally out of range to an observer.

Strong coincidences can be better understood by studying the weak ones that are prevalent and easy to grasp. Compare to the perception of perspective. With no understanding of how three-dimensional space is projected onto a two-dimensional plane, an untrained drafter could at least draw a simple scene by their intuition of space. A complex schematic would require more tools and geometric elements to adequately construct the same phenomena. Like the perception of distance, coincidence is essentially a set of logical relationships, so it may also be extracted from human experience. While the more complex events are still easy to recognize, they are not so easy to reproduce or imitate.

Imaginary object We have attempted here a name for strong coincidence, but not the things that are responsible, and which remain unobjectified. Even still we can postulate the existence of a thing having the inherent quality of being unobservable. This thing we call an imaginary object. It's comparable to a thing that has the inherent quality of being an object. This isn't technically possible, because being an object is an observational quality. Nonetheless, the label is convenient and applied in practice. Likewise, the imaginary object gains recognition as coincidences are continually observed and left unresolved.

Familiar Consider the things in an environment as a set of elements, and arrange them by how likely each one is to assume the state of an object. They can be imagined on a disc, where the most likely are placed closest to the center. We may refer to them as familiar. It follows the less familiar things reside near the edge. The observer defines their environment by the inclusion of things that are at least somewhat familiar, and orders them by their familiarity. If a thing that typically resides near the edge begins to appear as an object with any consistency, this would prompt the observer to sort their environment accordingly.

Conspicuousness   Coincidences are themselves things, and ones that are found along the edge since they are so unusual; however not all things along the edge necessarily belong to a coincidence. We call these things conspicuous when they assume the state of an object. Conspicuousness may be weak or strong, and is an observational quality. Strictly speaking, nothing is inherently conspicuous; but as with the imaginary object and the familiar thing, so there are things that tend to be perceived as conspicuous, as dictated by the observer.

A conspicuous thing is similar to a familiar thing, because both are primarily characterized by attaining the state of an object. The difference is the conspicuous thing is at the edge of the environment, and the familiar thing is at the center. If the conspicuous thing maintains the state of an object for very long, then the environment is rearraged, placing it closer to the center, and then the thing is no longer conspicuous.

EXAMPLE.   Sailors in the Indian Ocean are caught in strong monsoon winds, and their ship is blown off course. The ensuing environment is unfamiliar, and it takes them several days to get back on course. During this time they travel along the edge of their environment, as defined by the route they usually take and the experiences that come with it. They're more likely to encounter conspicuous things along their detour. Those things become a little familiar, but not a lot, because the sailors never return to the area.

When a thing maintains the state of an object either for a long time, or against a large collection of other things, it suggests something about that object makes it special, and empowers it to divert the observer's attention. This quality may be described as a relation between two borders, one inside the other. The inner border divides the object from the rest of the environment. The outer border divides the environment from the rest of the world filled of irrelevant things. Conspicuousness can be measured by the ratio of these borders.

Let the inner border be described by a circle, and the outer border be described by a square. As the size of the circle increases, the curve of the circle becomes more straight, like the shape of the square. Similarly, the object becomes less conspicuous. A tighter curve emphasizes that the object is surrounded, whereas no curve at all suggests there is no difference across sides, and nothing in the environment maintains the state of an object for very long.
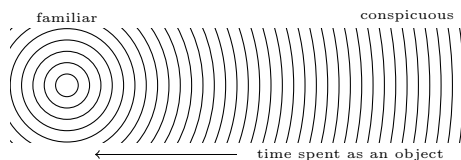
EXAMPLE. An auditorium is filled with spectators, and the stage is empty. An environment defined as all the people in the auditorium is rather flat. Each of the audience members attracts a bit of attention as neighbors talk amongst themselves. When a performer walks onstage, applause erupts and a great imbalance of attention wraps around the performer, who in the first few seconds appears very conspicuous.

There are familiar types of objects that make this diversion of attention seem normal. A particular assembly of plastic and metal is recognized as a phone, and gets all the more attention for it. When people see one, they figure such an arrangement of plastic and metal is worth their attention. A certain individual is elected mayor of some city, so they become a household name. The phone and the mayor are types that are known to attract attention. On the other hand, a conspicuous object may attract attention without conforming to a familiar type.

EXAMPLE. Bill comes home from vacation and finds a gum wrapper on the ground in front of his door. It's right in the middle where people walk. He picks it up and throws it out. The placement of the wrapper suggests it's a signal for someone else to know if anyone was visiting the home, for if anyone were home, they would be sure to pick up the trash just as Bill had done. To any neighbor or passerby, the piece of trash would appear completely inconspicuous.

Conspicuous coincidence   Conspicuousness is a quality that an object can possess, so just as with any other quality, two objects may be related by having it in common. Of course, the objects are also related by observation. If their conspicuousness doesn't explain their relation by observation, then by definition this is a coincidence: one witnesses a pair of conspicuous objects whose proximity is not explained by their conspicuousness.

This is an interesting kind of coincidence, because the significance of the event doesn't depend on any inherent quality. The two objects involved are related for being conspicuous, which is an environmental quality. The coincidence is largely independent of the observer's physical surroundings, so it can take many shapes and forms. This can allow it to

appear with subtlety, because some interpretation is required to compare objects that would normally have no significant relation.

> EXAMPLE. Two travellers run out of gas in a foreign country and need to walk for a few hours to get to a gas station. The sun is setting, and they pass a bleached turtle shell on the side of the road. The shell is rather conspicuous, and they contemplate qualities that relate it to their misadventure.

Accumulation A coincidence is a thing, and potentially an object in some greater environment. Two coincidences in the same environment are related for being coincidental. There's hardly an explanation as to why they're in proximity to each other, since coincidences are inherently mysterious, although one possible explanation blames the observer for being paranoid. Nonetheless there is generally the potential for coincidences to combine, such that they accumulate over time, or within an evolving environment.

> EXAMPLE. One witnesses a series of coincidences over a period of a year, and they occur with a steady frequency. As observations accumulate, each new coincidence appears more and more conspicuous. After the year is over, they don't occur as often, so they begin to appear less conspicuous.

Coincidences are themselves conspicuous, because they attract attention for some reason that can't be explained. An observer could recognize multiple coincidences and relate them for having conspicuousness in common. This relation inherently lacks explanation, so the relation is itself coincidental. Any proximity of coincidences accumulates as one greater coincidence, allowing events that are only mildly abnormal to merge into some greater, more disturbing event.

> EXAMPLE. Lagon goes into work on Halloween. On his way in a customer stumbles over a display, and ten or so bottles of red wine shatter on the floor. A few hours before his shift ends, he injures his hand and needs to leave work early. The red wine event is reminiscent of danger and blood, so he relates it to his injury, although the proximity of the events have no reasonable cause other than chance. He gets a flat tire on his way home, which isn't terribly unusual, since he gets a flat every few months. However his injury prevents him from fixing the flat on the road, so the injury and the flat necessarily relate and encourage a haunting interpretation. The accumulation of bad luck makes the whole day conspicuous.
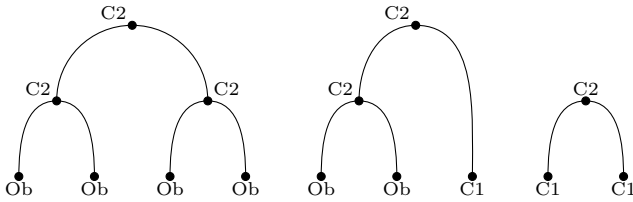
Left to right: Two coincidences form a coincidence. A coincidence and a conspicuous object form a coincidence. Two conspicuous objects form a coincidence.

5   Combination

Coincidences can be difficult to describe, because they usually don't come in neat packages like the examples given so far. They can be complicated and subtle; they can interact with each other, combine into new ones, and blend into other normal events. Sometimes describing one is achievable, but showing why it's significant or meaningful requires too much elaboration. Shapes can be used to represent the important properties of an event and abstract the remaining detail. Looking at the properties without the detail may help to analyze the situation and better understand its consequences.

Figures   Up to this point, we developed a vocabulary to describe properties of coincidences to make them easier to recognize and describe. In this section, we introduce six figures to represent the properties of coincidence, and then use variations of those figures to describe ways coincidences can combine.

Lines and circles can be combined to describe more complex events. Objects in an event are represented by points, and a line may connect the points to show the objects are related by some quality. The points may be surrounded by a circle to show the objects are in the same environment, or are related by observation. The circle defines the border of the environment, or all that the observer is aware of regarding the event.

Two lines represent two sets of related objects. If they intersect at some point, then that point represents an object that belongs to both sets, so it has the qualities pertaining to both sets of objects. If the lines don't intersect, no object belongs to both sets. If the lines run parallel, the sets might have some common structure. For example, each set has eleven objects. Two circles represent two environments. If they are concentric,

then one environment is contained within the other. A twisted circle represents one environment that appears as two to the observer.
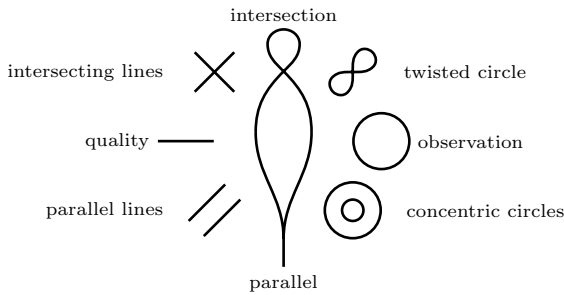
Concentric circles

EXAMPLE. Judith's new hometown has a long coastline, but it's mostly blocked out by private property. She explores the neighborhoods and happens to notice an unmarked path at the end of a road. She walks down the path and notices a sign saying it's property of the county, however it isn't marked on a map. The path leads to a beach, and on the beach she looks around at the stones and shells. She finds a few sand dollars, which she has never seen before in their natural habitat. She's surprised to find them, but not surprised they're found in multiplicity, since there may be a colony offshore.

The two events in this example are discovering the beach and discovering the sand dollars. The beach is a conspicuous object, and the neighborhood is its environment. The sand dollars are conspicuous objects, and the beach is their environment. Hence there is an environment within an environment, as represented by the concentric circles. Judith interprets the beach as both an object and an environment, depending on the event. Another interpretation takes the collection of sand dollars and the beach as two objects in one environment, and relates them for being conspicuous.

Intersecting lines

EXAMPLE. Hana's jasmine plant finally dies after two difficult months on her window sill. She likens the flower to a house of cards that will suddenly collapse after a slight disturbance. She goes to the garden store to get a cactus, and when she first walks in, she overhears a customer and cashier discuss a deck of cards sold in the store. The deck has a unique species of fungus featured on each card. The customer asks if they have a flower deck, and the cashier informs them that incidentally there is a shop across the street that literally just sells decks of cards, so they might have one there.

The jasmine plant, the customer asking about a flower deck, and the store across the street are related by having something to do with cards. Only Hana recognizes the coincidence between the jasmine plant and the fungus deck. The customer and the cashier still recognize the coincidence between the fungus deck and the store across the street. Both coincidences involve the fungus deck, and hence intersect.

The six figures introduced represent general interactions, but don't precisely apply to all interactions. Potentially any arrangement of lines and circles may well represent some interaction of events. In certain applications, intersection of lines might be better represented by a $\vdash$. In the preceding example, the intersection is more of a $\angle$.

Parallel lines

> EXAMPLE. On Monday, Alice is at home and her doorbell rings. She assumes it's someone delivering a package and answers an hour later, but there's no package. This repeats on Tuesday, and Alice suspects someone wants to speak with her. On Wednesday, she goes hiking in an unfamiliar forest and sets a course to go out and back. A few minutes into the walk she passes another hiker Bob walking the opposite direction. The path she takes is curving more than expected and appears to be going in a loop. She and Bob pass each other a second time, and then she gets back to where she started. She wants to keep hiking, so she heads out again, but this time going the opposite direction. She notes that if she were to pass Bob again, he would also need to reverse direction, and this is indeed what happens. Alice is inspired by this event and how it parallels the doorbell event. She and Bob pass twice, just like the doorbell rings twice, and they pass a third time going the opposite direction. Alice figures she ought to reverse direction when the door bell rings by answering the door to see who it is.

The doorbell event and the hiking event are each rather weak coincidences that may be reasonably explained by chance or human intervention. Each event can be described by a line with three points. For the doorbell event, each point is a doorbell ring, and for the hiking event, each point is Alice and Bob passing on the trail. The lines belong to the same environment, which is defined by Alice the observer. The lines don't intersect, but they have a similar structure. Both sets of objects occur in sequence, and the third object is the reverse of the first two. This similarity allows the events to be compared, and parallel lines may represent the interaction.

Twisted circle

EXAMPLE. Zach passes through a park as he walks home from practice and spots a weird looking sculpture on the ground next to a garbage can. It appears to be a crude, miniature clock tower. It's painted white and has a bent nail resembling a clock hand. It has an open roof, a mouse hole at the bottom with a ramp on the inside, and an enclosed base. It seems a marble should be dropped through the tower, so it hits the ramp and then rolls through the hole and around the enclosed base. The sculpture seems to serve a ceremonial purpose. Zach takes it home and sets it a few feet from his bed. Later that night as he begins to fall asleep, he has a most vivid nightmare of a black hole. As he opens his eyes, the first thing he sees is the sculpture, and he's convinced it's the cause of the nightmare.

In this coincidence, the objects are the sculpture and the nightmare. An inherent quality that relates them is being disturbing. An environmental quality that relates them is being conspicuous: the sculpture is a rare find, and perhaps Zach doesn't have nightmares that often. An observational quality that relates them is being observed by Zach. That the sculpture is disturbing might serve as an explanation for the subsequent nightmare, but it might not depending on how severe the nightmare is. He might not have taken the sculpture home if it were too creepy, or if those sorts of things tended to give him nightmares.

Events within dreams are relatively disconnected from events in waking life, so the two objects could be interpreted as having their own environments. Only when Zach wakes up do these environments seem to be connected. This could be represented as a twisted circle, where waking up is the object at the point of intersection.

6   Interpretation

"For shepherds have often seen animals in the fields give three or four jumps into the air, and then suddenly fall to the ground and die; and this is caused by the power of witches at the instance of the devil."
– Malleus Maleficarum

One might recognize an undeniably strong coincidence, and it may even be confirmed by other people who fail to agree on a plausible explanation. Even still, the event is easily forgotten, because it doesn't integrate easily within the usual daily to-do list. Weak coincidences are indispensable for their potential to yield subtle conclusions through more visible objects and relations. On the other hand, strong coincidences have no conclusions, and consequently they have no direct practical benefit. Without some interpretation, the unusual events fade as strange, motionless monoliths that sink into the ground.

Theory   There are two general approaches to process coincidence. A theoretical approach ponders the nature of coincidence itself, and the consequences of strong coincidence upon one's conception of reality. The approach takes many events, abstracts their particulars, and reveals common properties. Any conclusions drawn from a single event would need to be reproduced by others to be reliable.

Interpretation   An interpretive approach cares not for the fundamental problem of coincidence, and accepts its place in the world without knowing where it came from. A strong coincidence forces one to acknowledge something might be fundamentally off about one's perspective of the world, and this could leave one with a more flexible interpretation of daily events. Events are processed individually, and each of them inform one's course of action by drawing parallels to events that one actually has control over. Weak coincidences have equal capacity in this regard.

> EXAMPLE.   Iris sees a spider on the other side of a window as it approaches a fly caught in its web. It spins the fly around into a silk cocoon, and then climbs up its silk thread with the fly, up and out of view of the window. The observation is moving, and the relations of objects in the event become familiar and easy to recognize in other places. Iris recognizes a relationship between two people where one seems to play the role of the spider, and the other plays the role of the fly.

Parallels   Parallels can be drawn between all kinds of events. Doing so is especially tempting with coincidences, because they seem special and there's not much else to do with them. If one is particularly disposed towards them, there are ample opportunities to interpret relatively weak coincidences for whatever their value.

> EXAMPLE.   In an earlier example, Alice used her experience hiking to inform what to do next with the doorbell ringing. After passing Bob three times, she recognized the event was strange, but also found interpretive value. Instead of just being disturbed by its weirdness, she recognized its relation to the doorbell event, and informed her course of action by following the same pattern and answering the door.

Conspicuous interpretation   Coincidences formed by conspicuous objects are highly interpretable. When two conspicuous objects share the same environment, the observer naturally compares the two for any inherent qualities they may share, which would resolve the coincidence. A relation might not be discovered that rationalizes their proximity and resolves the coincidence, but some other relation might be found that holds some meaning to the observer.

EXAMPLE. Eli is out fixing a client's LAN and has complex troubleshooting steps to go through with the client, but a thunderstorm passes through and the power is cut, so he needs to leave and come back the next day. As he walks to his car after the rain subsides, he is pestered by crows swooping right over his head, as if to protect their nest. The power cut and the crows are each rather conspicuous on their own, so they form a coincidence. Eli contemplates their concurrence on the way home and is able to draw a meaningful relation, but not one that explains their proximity.

EXAMPLE. A few friends go camping in the desert, and two of them discover a small hot spring the size of a hot tub. The form of the rock even affords comfortable places to sit. They quickly take advantage of this convenience, and only later begin to ponder what geological process would result in such a nicely shaped hot spring.

Unnecessary interpretation   Although both weak and strong coincidences may hold interpretive value, the strong coincidence is more disturbing, and this can pressure the observer to figure out what to do with it. If the coincidence cannot be resolved by recognizing a cause, then at least it might have some meaningful interpretation. This should not imply, however, that there is one. Coincidence is still an artifact of one's own perspective, and interpretation is even more so dependent on the observer's subjective perspective. If the observer gains from some interpretation, this doesn't imply an actual relation between the event and the interpretation that is independent of the observer.
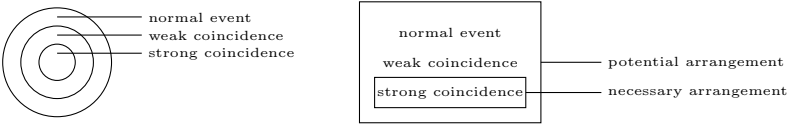
Blind trust   Assume there is some singular cause, or set of causes, that is revealed to be the true identity behind the so-called imaginary object. Whatever power it has to arrange strong coincidences is certainly not limited to the most improbable of events, but may also arrange perfectly normal events, or weakly coincidental events that appear significant to only the most paranoid of observers. It may certainly arrange those events that still offer a variety of plausible and material explanations. This assumption presents the danger of allowing excuses in the observer's interpretations, for example, when the most rational explanations aren't necessarily the most favorable.

Other explanations involving worldly forces are practical, because they can inform a future course of action. If some event passes and one must

learn from it so it doesn't happen again, one needs to know what caused it. This is analogous to recognizing one's fault in a situation that may have multiple explanations. An explanation involving one's fault is practical, because it's something one actually has control over and can do something about. Even if other explanations are more likely or responsible, resources spent trying to change them could fail or backfire, allowing the event to happen all over again.

Coincidences shouldn't be considered as a suggestion towards one action or another, because their source isn't dependable. Their source is either chance, which is inherently not dependable, or some unknown force completely beyond one's understanding. This kind of dependency is like a special ingredient that makes everything taste better, but lacks nutritional value. Interpretation may reveal alternative paths to take, but the choice of path should in some way be rationalized.

> EXAMPLE. Walter decides to take his years of experience as a cabinet maker and apply them to making speaker cabinets capable of withstanding even the heaviest sludge. He's out shopping for electical components and picks out cable housing and input jacks. As he waits in line at the cashier, a contractor that he worked with a couple years ago approaches him. The contractor has been looking for a custom cabinet maker for a new mansion that's about to begin construction. He hands Walter his business card, and as Walter checks out, his credit card is declined. Knowing there is no issue with his credit, he goes to the bank to get cash out. He gets stuck in traffic on the way back to the store, and reconsiders his purchase in the car, because he can't take on both projects at once.

Running into the contractor is a small coincidence, and the credit card declining unexpectedly is conspicuous, so the two events combine into one greater coincidence. The weirdness of the events is not easily rationalized, but nonetheless pressures Walter to rethink his decision. Coincidence as a source of advice suggests Walter take the mansion job, because it happens just as he's about to commit to the speaker project. After all, if he ran into the contractor the day before, the mansion job would simply appear as an alternative. Coincidence aside, the mansion job might still be a better choice, but coming to that conclusion requires some other rationalization. That, and a little luck the card declines.

Stress of unknowning The misunderstanding that coincidence implies direction comes from the stress incurred by observing uncanny coincidences. They present a gap in one's understanding of the world, and some stress is incurred from that doubt. For every following unexplainable coincidence, one is reminded of that doubt and incurs that stress.
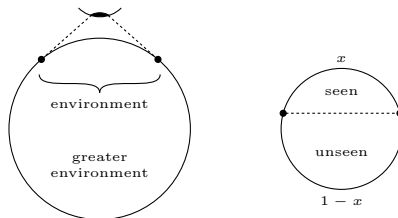
It's natural to want to redirect that stress somewhere, namely, by interpreting coincidence to direct one's course of action. While insight can be gained from interpretation, direction cannot be gained from a gap in understanding. This conclusion is supported by weak coincidences whose wealth of interpretive value isn't derived from some uncanny distortion of reality.
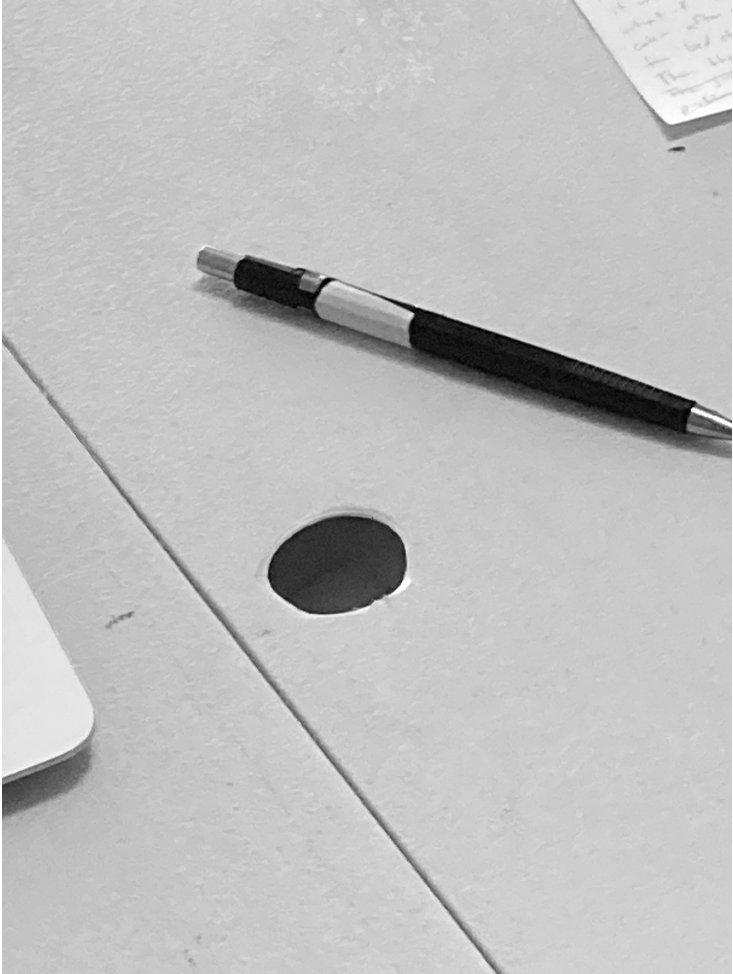
> EXAMPLE. On Monday, Aaron oversleeps and is a half hour late for work. It's the first time this has happened in three years. It happens again on Thursday. For both days, he went to bed at a reasonable time. He considers what is the cause, and recalls he used to have a backup alarm, but it broke a few months ago and was never replaced. The backup alarm was rarely necessary, so it took a few months to demonstrate that it was still needed.

Here the objects are oversleeping on Monday and Thursday, the quality that relates them is oversleeping, and they're related by observation by happening to Aaron in the same week. The quality of oversleeping alone doesn't explain why it happened twice in the same week, so Aaron looks for other qualities that relate the objects and account for their relation by observation, leading him to remember the backup alarm. He goes through this process to show up to work on time, not to explore the phenomena of coincidence.

Gateway   A practical method of interpretation is the inference, or projection, of some abstract environment having a much wider scope than the immediate environment where the coincidence is initially observed. This is most effective when the quality by which objects relate is common to all objects in the environment, as well as things throughout the less immediate surroundings.

> EXAMPLE. The time clock at work is a gateway between work and the rest of life, and a symmetrical one, for the duration of time is measured the same whether a worker is on or off the clock. The time clock has the effect of a mirror, such that the same timestamps that measure duration on the clock also measure duration off the clock, with no less precision or completeness. Hence the task of showing up on time gauges one's ability to manage time even when one isn't present.