

THE RELATIONSHIP BETWEEN DIRECTIONAL TURN AND DOMINANCE

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1: CiteSeerX Citation Query The nature and measurement of interpersonal dominance

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While there has been long-standing evidence that people are sensitive to the characteristics of the sources of testimony, for example in the context of persuasion, researchers have only recently begun to explore the wider implications of source reliability considerations for the nature of our beliefs. Likewise, much remains to be established concerning what factors influence source reliability. In this paper, we examine, both theoretically and empirically, the implications of using message content as a cue to source reliability. The implications are discussed for a variety of psychological, philosophical and political issues such as belief polarization and dual-route models of persuasion.

Introduction When a doctor recommends a treatment, a patient does not have to conduct a literature review before consenting. Like this patient, we learn not just from our own experience but also from other people. How do we treat people as sources? When do we distrust their claims? It should thus come as no surprise that research interest in trust and source reliability has continued to grow, with fresh impetus in the study of trust in developmental psychology for a review, see Mills, , in computer science for a review, see Artz and Gil, , and in philosophy e. Furthermore, in these contexts, there are not only questions about when we do trust people, but also about whether we do so rationally. These are key questions given that real-world sources are generally less than fully reliable see, e. Within psychology, it is the study of persuasion that has treated sources most extensively. They comprise two routes to persuasion: Contemporary dual-process theories recognize that message content and sources can interact in subtle ways. A classic study showed that, when personal relevance was low, persuasiveness was due to source reliability; when personal relevance was high, persuasiveness was due to argument strength, that is, the actual content of the persuasive message Petty et al. For example, source expertise can affect the direction of thoughts, so long as the message is ambiguous and the task is important Chaiken and Maheswaran, For example, when there are multiple sources for a claim, people tend to think longer, magnifying differences attributable to argument strengths: In other words, 4 and 5 allow source information to affect analytic processing in ways that go beyond evidential value, by moderating the direction and amount of analytic thinking that takes place. Hence, the contemporary ELM provides a subtler account of sources than earlier perspectives, no longer confining source information to the peripheral route. But there remain challenges. Sometimes, for instance, an intuitively good and complex argument depends principally or even solely on information about its source, as when arguments for anthropogenic climate change are based on the beliefs of climate scientists see Hahn et al. Other times both content and source information seem relevant. In such cases, how should we combine the information; how separable are the two types? Where the ELM has addressed this question, it has suggested that argument and source provide additive cues. The persuasion literature echoes a large and venerable prescriptive literature on argumentation. In this literature, arguments are supposed to speak for themselves. Such arguments feature prominently in traditional catalogs of fallacies e. However, even this tradition increasingly holds that such arguments are sometimes reasonable, and focuses on distinguishing fallacious and non-fallacious forms e. But recent work goes further still, and argues that source characteristics have evidential value in a broad range of circumstances e. This work adopts a normative, Bayesian perspective which mandates sensitivity to source characteristics in many argument evaluation contexts. This perspective is echoed in Bayesian treatments of testimony in the context of developmental psychology Shafto et al. This Bayesian approach to argumentation is an instance of a more general approach to cognition, where optimal models are developed and compared with data from participants. This approach has been applied, for instance, to perception e. These models presuppose Bayesianism on the grounds that, under certain conditions, Bayesian reasoning is demonstrably optimal Rosenkrantz, ; Leitgeb and Pettigrew, a , b ; for discussion, see Hahn, If human behavior approximates the

model, then the optimal model provides a functional explanation of why human behavior is the way it is. However, such models are also useful where deviations arise as they can guide exploration of constraints that underlie the shortfall between actual and optimal behavior see, e. In argumentation, this approach has given rise to hypotheses that have prompted experimental research on the influence of source characteristics in the context of argument see e. Many of these hypotheses originate in Bayesian approaches to testimony, that is, belief updating in response to the saying, uttering, asserting of a claim by a source of partial reliability e. Here, normative Bayesian models prescribe that message content and source reliability should be considered together to avoid the mis-calibration of beliefs. Such models often yield surprising, counter-intuitive results. For instance, diverse evidence e. Finally, where multiple pieces of testimonial evidence are concerned, there will, normatively, be subtle, complex, interactions between the reliability of the individual witnesses, and how informationally independent they are from one another see e. Initial experimental evidence suggests that people conform, to some extent, to Bayesian norms. Even when participants evaluate arguments in fictitious scenarios that should promote conditions of low personal involvement from the perspective of the ELM, they are, in fact, sensitive to both message content and message source, and their behavior shows interactions between content and source reliability Hahn et al. Such behavior is, at least qualitatively, consistent with Bayesian norms. In this paper, we consider two specific models which prescribe consideration of messages and sources together. The models apply under conditions of uncertainty, and tell us how to update our beliefs: Of course, in the real world, sources are generally fallible, hence only partially reliable, but their precise degree of reliability is also not known. The Bayesian approach does not tell us how to judge the initial reliability of our sources. Literature on lie detection, for example in forensic contexts, has considered individual features that might be informative about whether or not a source is telling the truth, ranging from personality characteristics to mannerism or behaviors, such as voice characteristics, gestures, or eye movements see, e. But intuitively relevant, too, is the actual content of what someone says. This is obviously the case where it is known that what someone has claimed is actually false. Whether this was based on an intentional lie or merely an error, it should clearly affect our views about the reliability of the individual concerned. However, philosophers concerned with testimony have also taken the view that we might already consider relevant to judgments of reliability any statements that strike us as implausible, even though we are willing to allow the possibility that they are, in fact, correct. From the literature on formal epistemology, two related Bayesian models have embodied this intuition: These models share a fundamental assumption: On the one hand, the reliability of the source moderates the evidential impact of the message content. On the other hand, message content provides evidence about the reliability of the source. Effectively, hearing someone say something implausible or unexpected e. If the source is reliable, it is simply assumed to report the true state of affairs. If the source is unreliable, however, its report has no systematic connection with the worldâ€”it is as though a coin is flipped to determine whether to assert the truth or the falsity of what is being reported though different degrees of bias toward positive or negative reports can be modeled as well; see Bovens and Hartmann, , for details. Bayesian belief network of testimony from Bovens and Hartmann On hearing a report, the recipient revises both her belief in the hypothesis and her belief in the reliability of the source. Within the psychological literature, consequences of this simple model have been explored, for example, in Jarvstad and Hahn Firstly, source reliability is represented not by a binary variable, but by a distribution over possible reliability profiles, updated via Bayesian inference. Secondly, unreliability does not lead to randomization. For example, a used-car dealer saying that one vehicle is better than the other is taken as evidence of the opposite. Together the models raise empirical questions about what people do. Do people use message content to revise their beliefs about a source, and, in particular, do they do so even in a minimal context where there is no other information? If they do so, do they use message content to revise beliefs about reliability both upwards and downwards? And, finally, under what circumstances, if any, are they willing to consider sources to be anti-reliable? These questions are of theoretical interest: And these, in turn, as discussed above, are of interest to anyone concerned with persuasion and the role of source characteristics in the

psychological processing of persuasive messages. However, the question of whether there is a bi-directional relationship between message content and perceived source reliability is also of wider societal importance. Perceived anti-reliability, for instance, may help to explain belief polarization, whereby collectives might find themselves split into groups of ever more extreme, diametrically opposing views for a discussion of belief polarization in US politics, see Mann and Ornstein, Polarization may ensue rapidly once opponents, say, Republicans and Democrats take evidence offered by the other group to, anti-reliably, be evidence to the contrary. Indeed, simulations with societies of artificial agents based on the Olsson and Angere model typically develop this kind of belief polarization within the group Olsson and Vallinder, ; see also Hahn and Harris, It thus matters greatly, from a practical perspective, whether anti-reliability requires special kinds of evidence, or whether it might arise simply from the fact that the content of communications seems unexpected. This paper presents a series of experiments that explore whether message content influences perceived source reliability and vice versa. Experiment 1a examined the extent to which participants changed their beliefs in response to claims presented by more or less reliable expert, trustworthy sources. Experiment 2a and 2b provide a replication. Experiment 3, finally, employed a different method, which avoided any overt reference to source reliability, to examine further the extent to which participants spontaneously use message content to revise beliefs about message source. Experiments 1a and 2a examined the effects of reliability on beliefs. Specifically, they tested the prediction that reliable sources should increase belief in a claim. This prediction is common to both the BH and OA models. The alternative prediction of the BH model is that maximally unreliable sources are simply viewed as uninformative, so that beliefs do not change in response to messages from them. Experiment 1b and 2b examined the converse relationship, that is, the effects of claims on perceived reliability. For both models BH and OA expected claims should increase source reliability and unexpected claims should decrease source reliability. Experiment 3, finally, tested for implicit effects of message content on source reliability by examining the impact of a message on beliefs as a function of a preceding message by the same source. On both accounts BH and OA a second claim should be more convincing following an expected claim. Only the OA account additionally allows for possible anti-reliability such that an initial unexpected claim could change the valence of a second claim. Participants were either asked to evaluate the claim Exp. These materials could be used to examine either the effect of reliability on message convincingness or the effect of message convincingness on source reliability, depending on the claim Exp. Belief in a Claim Participants Ninety-nine people 45 women; average Materials and Procedure Participants read brief texts about six topics. Each text took the following form. Now imagine that Michael, who is a clinical nurse specialist, told you the following: The initial ratings act as a manipulation check, with reliable differences in expectedness in the anticipated directions. These data are summarized in Table 1, Appendix 2 in Supplementary Material.

2: Dominance (genetics) - Wikipedia

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Emphasis is created by visually reinforcing something we want the viewer to pay attention to. The strongest focal point with the greatest visual weight is the dominant element of the work. Elements of secondary importance could be termed sub-dominant, and elements with the least visual weight subordinate. Isolation, leading lines and convergence, contrast, anomaly, size, placement, framing, focus and depth of field, and absence of focal points are some of the strategies used to help create these degrees of importance. Isolation - By separating the subject from other distracting elements and placing it against a plain background, the viewer is left with nothing else to focus on. In drawing and painting, etc. Photographers need to pay special attention to what is in the background of the picture, and work to eliminate unwanted clutter. Leading Lines and Convergence - A line, arrow, or similar triangular or elongated element can indicate a direction and point towards something, leading the eye in that direction. When multiple elements converge toward a point such as lines going back into perspective, they can create an even greater pull of attention in that direction. Contrast - The more strongly something contrasts with its surroundings, the easier it is to see and the more energy it will seem to have. Strong contrast in value, color, etc. In something perfectly flat, smooth, white, etc. Anomaly can also be created by juxtaposing things that are not normally seen together, or depicting scenes that invert or alter the everyday. Size - The larger it is, the more visual weight it will have and the more clearly it will be visible. Do not be afraid to fill the frame with your subject, even if it means not all of the subject will fit in the frame. Concentrate on and enlarge what is important, so the viewer can connect with it. Placement - An element placed front and center will confront the viewer. All else being equal, a third of the way in from any border can be a visually pleasing place to locate something of importance. Framing - Just as a picture frame sets off a painting from the wall and calls attention to the artwork, similar elements within an artwork can help direct attention. Posing or painting a figure framed by a doorway, window, objects associated with them a cook framed by hanging pots and pans, etc. In three-dimensional work, framing tubes, tunnels, portals, openings, gaps, cracks, etc. Focus and Depth of Field - When we look at something, we focus on it so we can see sharp detail. In art, areas depicted in sharp focus will be dominant. Depth of field is the range from near to far in which objects appear to be in focus. When you look out at a landscape, for example, everything from pretty close to far far away appears in focus if your vision or glasses are good and the depth of field is said to be large deep focus. In this case, other factors than focus will direct attention within the work. Using a shallow depth of field gives the artist the ability to direct attention by choosing just what she wants to be in focus, be it near-distance, middle or far. Blurring the background can be a good way to reduce distracting elements and help isolate the subject. Absence of Focal Points - If a work has no real focal points, then the work as a whole becomes the focal point. Here the photographer has isolated the subject against an interesting but uncluttered background, that complements rather than distracts. The strong contrast in colors, shapes and textures between the person on the beach and the surrounding sand clearly separate and emphasize the subject. The fireplace also acts as a frame to further emphasize the train. Nick Brandt - Windswept Lion, Serengeti, Rembrandt uses a beam of light to pick the captain and his lieutenant out of the dim scene. He places the men front and just to the right of center, the light glowing off of their white ruffles, gold suit and red sash, and further leads the eye to them by having other figures and elements point in their direction. But while the primary focus of this large painting is clear, Rembrandt also makes sure the viewer becomes immersed in the whole canvas. Here a simple band of black echoes and emphasizes the lively posture of the vessel. Here the edges of a pool converge and lead the eye to a geometric black and gray diving board below the center of the image, standing out from the soft colors around it, and it becomes apparent that, in a barren flooded landscape, there is an empty swimming pool. The scene, quite unlike the usual view of a pool, raises questions as to how it came about, and can hold attention and be appreciated for its anomaly as well as its aesthetic beauty.

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3: Bi-directional cross filters in tabular models | Microsoft Docs

The relationship between turning behavior and motoric dominance in humans. analyzed the relationship between turning behavior in a and postural signals can lead to greater directional.

Introduction to genetics The concept of dominance was introduced by Gregor Johann Mendel. Though Mendel, "The Father of Genetics", first used the term in the s, it was not widely known until the early twentieth century. Mendel observed that, for a variety of traits of garden peas having to do with the appearance of seeds, seed pods, and plants, there were two discrete phenotypes, such as round versus wrinkled seeds, yellow versus green seeds, red versus white flowers or tall versus short plants. When bred separately, the plants always produced the same phenotypes, generation after generation. However, when lines with different phenotypes were crossed interbred, one and only one of the parental phenotypes showed up in the offspring green, or round, or red, or tall. However, when these hybrid plants were crossed, the offspring plants showed the two original phenotypes, in a characteristic 3: Mendel reasoned that each parent in the first cross was a homozygote for different alleles one parent AA and the other parent aa, that each contributed one allele to the offspring, with the result that all of these hybrids were heterozygotes Aa, and that one of the two alleles in the hybrid cross dominated expression of the other: Mendel did not use the terms gene, allele, phenotype, genotype, homozygote, and heterozygote, all of which were introduced later. He did introduce the notation of capital and lowercase letters for dominant and recessive alleles, respectively, still in use today. Chromosomes, genes, and alleles[edit] See also: Ploidy and Zygotity an autosomal dominant pattern. Most animals and some plants have paired chromosomes, and are described as diploid. These gametes then fuse during fertilization during sexual reproduction, into a new single cell zygote, which divides multiple times, resulting in a new organism with the same number of pairs of chromosomes in each non-gamete cell as its parents. Each chromosome of a matching homologous pair is structurally similar to the other, and has a very similar DNA sequence loci, singular locus. The DNA in each chromosome functions as a series of discrete genes that influence various traits. Thus, each gene also has a corresponding homologue, which may exist in different versions called alleles. The alleles at the same locus on the two homologous chromosomes may be identical or different. The blood type of a human is determined by a gene that creates an A, B, AB or O blood type and is located in the long arm of chromosome nine. There are three different alleles that could be present at this locus, but only two can be present in any individual, one inherited from their mother and one from their father. The genetic makeup of an organism, either at a single locus or over all its genes collectively, is called its genotype. The genotype of an organism directly and indirectly affects its molecular, physical, and other traits, which individually or collectively are called its phenotype. At heterozygous gene loci, the two alleles interact to produce the phenotype. Complete dominance[edit] In complete dominance, the effect of one allele in a heterozygous genotype completely masks the effect of the other. The allele that masks the other is said to be dominant to the latter, and the allele that is masked is said to be recessive to the former. A classic example of dominance is the inheritance of seed shape pea shape in peas. Peas may be round associated with allele R or wrinkled associated with allele r. In this case, three combinations of alleles genotypes are possible: RR and rr are homozygous and Rr is heterozygous. The RR individuals have round peas and the rr individuals have wrinkled peas. In Rr individuals the R allele masks the presence of the r allele, so these individuals also have round peas. Thus, allele R is completely dominant to allele r, and allele r is recessive to allele R. Incomplete dominance[edit] This Punnett square illustrates incomplete dominance. In this example, the red petal trait associated with the R allele recombines with the white petal trait of the r allele. The plant incompletely expresses the dominant trait R causing plants with the Rr genotype to express flowers with less red pigment resulting in pink flowers. The colors are not blended together, the dominant trait is just expressed less strongly. Incomplete dominance also called partial dominance, semi-dominance or intermediate inheritance occurs when the phenotype of the heterozygous genotype is distinct from and often intermediate to the

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phenotypes of the homozygous genotypes. For example, the snapdragon flower color is homozygous for either red or white. When the red homozygous flower is paired with the white homozygous flower, the result yields a pink snapdragon flower. The pink snapdragon is the result of incomplete dominance. When plants of the F1 generation are self-pollinated, the phenotypic and genotypic ratio of the F2 generation will be 1: This diagram shows co-dominance. In this example a white bull WW mates with a red cow RR, and their offspring exhibit co-dominance expressing both white and red hairs. Co-dominance occurs when the contributions of both alleles are visible in the phenotype. For example, in the ABO blood group system, chemical modifications to a glycoprotein the H antigen on the surfaces of blood cells are controlled by three alleles, two of which are co-dominant to each other IA, IB and dominant over the recessive i at the ABO locus. The IA and IB alleles produce different modifications. The enzyme coded for by IA adds an N-acetylgalactosamine to the membrane-bound H antigen. The IB enzyme adds a galactose. The i allele produces no modification. The medical condition produced by the heterozygous genotype is called sickle-cell trait and is a milder condition distinguishable from sickle-cell anemia, thus the alleles show incomplete dominance with respect to anemia, see above. For most gene loci at the molecular level, both alleles are expressed co-dominantly, because both are transcribed into RNA. Co-dominance, where allelic products co-exist in the phenotype, is different from incomplete dominance, where the quantitative interaction of allele products produces an intermediate phenotype. For example, in co-dominance, a red homozygous flower and a white homozygous flower will produce offspring that have red and white spots. These ratios are the same as those for incomplete dominance. Again, note that this classical terminology is inappropriate – in reality such cases should not be said to exhibit dominance at all. Addressing common misconceptions[edit] While it is often convenient to talk about a recessive allele or a dominant trait, dominance is not inherent to either an allele or its phenotype. Dominance is a relationship between two alleles of a gene and their associated phenotypes. A "dominant" allele is dominant to a particular allele of the same gene that can be inferred from the context, but it may be recessive to a third allele, and codominant to a fourth. Similarly, a "recessive" trait is a trait associated with a particular recessive allele implied by the context, but that same trait may occur in a different context where it is due to some other gene and a dominant allele. Dominance is unrelated to the nature of the phenotype itself, that is, whether it is regarded as "normal" or "abnormal," "standard" or "nonstandard," "healthy" or "diseased," "stronger" or "weaker," or more or less extreme. A dominant or recessive allele may account for any of these trait types. Dominance does not determine whether an allele is deleterious, neutral or advantageous. However, selection must operate on genes indirectly through phenotypes, and dominance affects the exposure of alleles in phenotypes, and hence the rate of change in allele frequencies under selection. Deleterious recessive alleles may persist in a population at low frequencies, with most copies carried in heterozygotes, at no cost to those individuals. These rare recessives are the basis for many hereditary genetic disorders. Dominance is also unrelated to the distribution of alleles in the population. Some dominant alleles are extremely common, while others are extremely rare. The most common allele in a population may be recessive when combined with some rare variants. Nomenclature[edit] This section is about gene notations that identify dominance. For modern formal nomenclature, see Gene nomenclature. In genetics, symbols began as algebraic placeholders. When one allele is dominant to another, the oldest convention is to symbolize the dominant allele with a capital letter. The recessive allele is assigned the same letter in lower case. In the pea example, once the dominance relationship between the two alleles is known, it is possible to designate the dominant allele that produces a round shape by a capital-letter symbol R, and the recessive allele that produces a wrinkled shape by a lower-case symbol r. The homozygous dominant, heterozygous, and homozygous recessive genotypes are then written RR, Rr, and rr, respectively. It would also be possible to designate the two alleles as W and w, and the three genotypes WW, Ww, and ww, the first two of which produced round peas and the third wrinkled peas. Note that the choice of "R" or "W" as the symbol for the dominant allele does not pre-judge whether the allele causing the "round" or "wrinkled" phenotype when homozygous is the dominant one. A gene may have several alleles. Each allele is symbolized by the locus symbol followed by a unique superscript. In many

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species, the most common allele in the wild population is designated the wild type allele. Other alleles are dominant or recessive to the wild type allele. For recessive alleles, the locus symbol is in lower case letters. For alleles with any degree of dominance to the wild type allele, the first letter of the locus symbol is in upper case. For example, here are some of the alleles at the *a* locus of the laboratory mouse, *Mus musculus*: The *ab* allele is recessive to the wild type allele, and the *Ay* allele is codominant to the wild type allele. The *Ay* allele is also codominant to the *ab* allele, but showing that relationship is beyond the limits of the rules for mouse genetic nomenclature. Rules of genetic nomenclature have evolved as genetics has become more complex. Committees have standardized the rules for some species, but not for all. Rules for one species may differ somewhat from the rules for a different species. If the alleles have different effects on the phenotype, sometimes their dominance interactions with each other can be described as a series. For example, coat color in domestic cats is affected by a series of alleles of the *TYR* gene which encodes the enzyme tyrosinase. The alleles *C*, *cb*, *cs*, and *ca* full colour, Burmese, Siamese, and albino, respectively produce different levels of pigment and hence different levels of colour dilution. The *C* allele full colour is completely dominant over the last three and the *ca* allele albino is completely recessive to the first three. Sex linkage In humans and other mammal species, sex is determined by two sex chromosomes called the X chromosome and the Y chromosome. Human females are typically XX; males are typically XY. The remaining pairs of chromosome are found in both sexes and are called autosomes; genetic traits due to loci on these chromosomes are described as autosomal, and may be dominant or recessive. Genetic traits on the X and Y chromosomes are called sex-linked, because they are linked to sex chromosomes, not because they are characteristic of one sex or the other. In practice, the term almost always refers to X-linked traits and a great many such traits such as red-green colour vision deficiency are not affected by sex. Females have two copies of every gene locus found on the X chromosome, just as for the autosomes, and the same dominance relationships apply. Males however have only one copy of each X chromosome gene locus, and are described as hemizygous for these genes.

4: The Gradient and Directional Derivative

Such directional dominance is expected to arise in evolutionary fitness-related traits due to directional selection. Studies of genome-wide homozygosity thus have the potential to reveal the non-additive allelic architecture of a trait and its evolutionary history.

Fuzzy logic is a general term that refers to a system or methodology that to some degree employs the use of one or more Fuzzy sets. Fuzzy controller, Fuzzy expert system, and Fuzzy neural net are three such example systems. Fuzzy Logic is an extension of classical Boolean logic that uses Fuzzy sets rather than Boolean sets; is based on rules of the form "if A then B " in which inputs convert outputs based on "degrees of truth". Fuzzy Logic controller is a rule based methodology in which system inputs observables are systematically and mathematically related to system outputs controllables. A Fuzzy controller is a highly non-linear function. In the common engineering sense the formulation of a Fuzzy controller is not model based; that is, the rules that govern the controller are not necessarily derived from a physics-based model of the system. Rather, the designer describes in approximate or vague terms the relationships between quantities thought or desired to hold true. There is nothing fuzzy about the logic itself; it is the words, represented with Fuzzy sets, that are ambiguous or uncertain. With Fuzzy logic a controller may be designed to employ experience and common sense knowledge, since rules-of-thumb exist mainly in the form of linguistic statements that are usually, but not always, true. Fuzzy logic is a logic statement that associates Fuzzy set input to Fuzzy set output. Fuzzy set is a mathematical concept whereby the degree to which an element belongs to a particular notion about some domain of definition is classified as completely true 1, completely false 0, or partially true and partially false $[0, 1]$. For example, consider the domain of all room temperatures; The mathematical manipulations of Fuzzy sets "Fuzzy Logic" are not vague. Grid data are aggregated using a global coordinate system in order to merge multiple individual-well data sources. HD is horizontal deviation; see table. The center of the image and parallel to the MD axis represents the bottom low side of the bore hole while the edges coincide with the bore hole top high side. MD is the depth as measured along a well path. For example, consider a heating and cooling system for an enclosed football stadium. The current temperature at a specific location within the stadium is an observable. The planned well path can be piece-wise continuous, meaning it can change abruptly as a result of new information acquired while drilling e. RSD is relative stratigraphic depth. RSS is rotary steerable system; see rotary steerable.

5: Directional selection - Wikipedia

Directional dominance on stature and mean SROH and the relationship between SROH and NROH (the numbers of separate runs in turn reflecting the sample size and.

Conceived and designed the experiments: Received Jun 6; Accepted Dec 6. This is an open-access article distributed under the terms of the Creative Commons Attribution License , which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. This article has been cited by other articles in PMC. Associated Data Figure S1: Graphical abstract of the study. The owner and her dogs participating in the study. Dogs wore a harness equipped with a GPS and moved freely during the walks. Genealogy of the Vizslas. The colouring and shape of symbols indicate the sex of the individuals: Illustration of the smoothing of the GPS trajectories, and its effect on the velocities calculated by numerical derivation. For a 50 s long part of a track dog V1 and walk 5 , components of the positions and the velocities are shown: A x blue and y green , B vx, and C vy. Red dashed curves show the data for the smoothed trajectories. D For a 10 s trajectory segment indicated by a black dashed line on the left side panels , positions and velocities are shown. The velocities are depicted by vectors and are shifted to the right for better visibility. Illustration of the returns to the owner for dog V1 during the same walk that is presented on Figure 1. The parts highlighted with thick lines show the path travelled by the dog red and the owner black when our algorithm found the dog to be returning. Arrows indicate the distance between the dog and the owner at the beginning of the return orange and at the end grey. Velocities of the dogs during walks. The curve on each graph shows the sum of the two lognormal functions which were fitted to the data. Two separate maxima are visible on each graph, the first represents time spent not moving standing, digging, etc. The distance and correlation-distance histogram of dogs for the cases when interactions were found by the time windowed directional correlation delay method. Note that C_{ij} is related to the average difference between the direction of movement of the two dogs in a pair with the time delay providing the highest correlation: There was no need to use a cut-off limit for the distances, as most interactions occurred when the dogs were in the range of vision of each other. On each panel the grey histogram shows the frequency of the interactions detected with different time delays, when high correlation was found for a 6 s long time window normalized with the number of walks. The green histograms show the probability density functions of the bootstrapped sample histogram maxima, with the corresponding vertical axis on the right. The panels are arranged in ascending order of the S. This value was used to distinguish between the existence or absence of a significant peak. Aâ€™H Pairs where significant leader-follower relationships were found are shown with blue. These Gaussian distributions were used to estimate the ratio of leading for each pair. Iâ€™O Those pairs where no significant connections were found in the absence of a significant peak are shown with red. See details of the decision criteria in Figure S9 , and for the effect of this choice on the leadership network, consult Figure S The black curve shows the cumulative distribution of the S. We gained the randomised histograms by summing up the directional correlation delay time histograms of randomly selected pairs for each walk. The graph also shows the measured S. Pairs where we detected significant leader-follower relationships are indicated with blue colour, otherwise red colour was used. The effect of the cut-off value for considering histograms to have a significant peak on the leadership network. On the top, the maximal value of the S. Lower or higher limits result in less or more edges in the network, respectively. However, the overall hierarchy remains the same. The numbers next to each node indicate the number of individuals which can be reached via directed links. This value was used as a measure of the leadership rank. The leadership network shown for lower Aâ€™B and higher Dâ€™E thresholds than the limit chosen C for use in the main text Figure 2 and in all further analysis. In all cases the correlation is significant. Pearson correlation values between all variables extracted from the trajectory data, and the personality traits of the dogs measured by questionnaires. Correlation values are colour-coded according to the corresponding p-values for positive correlation blue: The p-values are shown on

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Figure S P-values between all variables presented on Figure S The values are colour-coded for positive correlation blue: Please check the details at Figure S Results of the permutation test performed to check the validity of the correlations shown on Figure S For each variable pair, the Pearson correlation values were calculated for all possible permutations of the five Vizslas. The cells show the ratio of correlation values in the permuted cases that are higher than or equal to the correlation value of the correct pairing. Cells are highlighted with blue for positive correlations, where this ratio is below 0. The variables characterising the interactions between pairs of dogs detected via the time-windowed directional correlation function method and the bootstrap method. Supplementary details of the analysis, additional results, and justifications. The supplementary text contains technical details of the data filtering and processing, justification of the variables by showing their uniqueness and consistency, justification of the correlations by an additional permutation test, and justification of all chosen parameters by showing that they have no effect on the final results. Animation showing a 3 minute long part of a walk by the owner black triangle and her dogs coloured circles , recorded with GPS devices. In the bottom right corner the real time is shown, the video is played at 5 times the real speed. The inset in the top right corner illustrates the total path of the owner during the walk which started at the origin. The small rectangle shows the area presented on the main plot. On the main plot, for each individual the thick, normal and thin lines show the trajectories of the last 2 s, 5 s and 20 s, respectively. The momentary leader-follower relationships found by the time windowed directional correlation delay method are shown with the kite-shaped highlighting: We investigated whether dominance rank and personality traits are linked to leader and follower roles during joint motion of family dogs. We obtained high-resolution spatio-temporal GPS trajectory data , data points from six dogs belonging to the same household and their owner during 14 30â€”40 min unleashed walks. A directional correlation analysis quantifies interactions between pairs of dogs that run loops jointly. However, on a longer timescale tendencies to lead differ consistently. We demonstrated the possibility of determining dominance rank and personality traits of an individual based only on its logged movement data. The collective motion of dogs is influenced by underlying social network structures and by characteristics such as personality differences. Our findings could pave the way for automated animal personality and human social interaction measurements. Author Summary How does a group of family dogs decide the direction of their collective movements? Is there a leader, or is decision-making based on an egalitarian system? Is leadership related to social dominance status? We collected GPS trajectory data from an owner and her six dogs during several walks. We found that dogs adjusted their trajectories to that of the owner, that they periodically run away, then turn back and return to her in a loop. Tracks have unique features characterising individual dogs. Leading roles among the dogs are frequently interchanged, but leadership is consistent on a long timescale. Decisions about running away and turning back to the owner are not based on an egalitarian system; instead, leader dogs exert a disproportionate influence on the movement of the group. Leadership during walks is related to the dominance rank assessed in everyday agonistic situations; thus, the collective motion of a dog group is influenced by the underlying hierarchical social network. Dogs are an ideal model for understanding human social behaviour. Therefore, we address the possibility of conducting similar studies in humans, e. Introduction Groups that are not able to coordinate their actions and cannot reach a consensus on important events, such as where to go, will destabilise, and individuals will lose the benefits associated with being part of a group [1] , [2]. Decision-making usually involves some form of leadership, i. Several factors may give rise to the emergence of leadership. In some species or populations, leaders are socially dominant individuals consistent winners of agonistic interactions [4] and have more power to enforce their will [5]. For example, in rhesus macaques *Macaca mulatta* the decision to move is the result of the actions of dominant and old females [6]. Similarly, dominant beef cows *Bos taurus* have the most influence on where the herd moves. They go where they wish while subordinates either avoid or follow them [7]. Leaders could appear in species or populations without any dominant individuals, or independently from social dominance. Leaders may have the highest physiological need to impose their choice of action [1] , [3] , [8] â€” [10] , or they may possess special information or skill

[11] , [12]. Finally, an individual of a personality type that is more inclined to lead or does not prefer following others may also initiate collective movements [13] , [14]. For example, leadership is associated with boldness in sticklebacks *Gasterosteus aculeatus* [15] , [16]. The investigation of the relationship between leadership and personality might reveal which personality types occupy particular positions in the leadership network, and conversely, network metrics could identify potential personality traits. With this study our aim was to reveal potential links between leadership in collective movements, motion patterns, social dominance, and personality traits in domestic dogs *Canis familiaris*. It is often assumed that domestic dogs inherited complex behaviours from their wolf ancestors *Canis lupus*. However, family dog groups may consist of several unrelated individuals with multiple potential breeders. In large wolf packs with several breeders, leadership varies among packs, and dominance status has generally no direct bearing on leadership, but breeders tend to lead more often than non-breeders [18]. Similarly, leadership in Italian free-ranging dogs interchanged between a small number of old and high-ranking habitual leaders.

6: Directional dominance on stature and cognition in diverse human populations

Dominance in genetics is a relationship between alleles of one gene, in which the effect on phenotype of one allele masks the contribution of a second allele at the same locus. [1] [2] The first allele is dominant and the second allele is recessive.

Due to phylogenetic relatedness and popular conceptions of similarities, behavioral studies of nonhuman primates have a much greater impact on ideas about human behavior than studies of other groups of organisms. Because of our biological basis for shared traits resulting from a common evolutionary heritage, nonhuman primate behavior is often put forward as evidence of an underlying natural condition or of normative roles in human behavior. In recent years, the evidence for the diversity and complexity of nonhuman primate behavior has complicated the process of generalizing from primate to human behavior. Yet, at the same time, certain reductionist accounts--stemming primarily from sociobiology and evolutionary psychology--have found their way into popularized narratives that rely on analogies between primate and human behavior that have little basis in the evidence of primatology. This paper focuses on the tension between these two trends in the uses of primatology, particularly as they relate to discussions of male aggression and male dominance. These orientations frequently assume a specific set of evolutionarily patterned differences between the sexes that underlie, and seemingly clarify, the basis for the behavioral patterns in human genders. Our main goal is to investigate bio-reductionist views of male roles in the context of data from primate studies. Specifically, we will discuss claims about the evolution of certain types of gendered behavior--in particular that relating to male aggression and male dominance. Seeing Ourselves in Primates: Early Primate Studies Prior to even the earliest field studies of the nonhuman primates, humans saw great similarities between themselves and the monkeys and apes. Indeed, the relevance of nonhuman primates to questions of human evolution and behavior is one of the foundations of primate studies. Robert Yerkes, Clarence Carpenter, Solly Zuckerman, and Kinji Imanishi initiated the studies into the social behavior of the nonhuman primates and essentially facilitated the creation of the current patterns and processes in primatology Strier ; Strum and Fedigan Louis Leakey, realizing the importance of the human-ape connection, fostered the long-term ape research projects of Diane Fossey, Jane Goodall, and Birute Galdikas, which laid the groundwork for the explosion in ape research over the past three decades. Throughout this time, behaviors that appear to have evolutionary importance took center stage: As the number of primate species studied increased, the data began to point to substantial variability in behavior within the primate order. Wilson published his book, *Sociobiology: The New Synthesis* in , it marked a turning point in behavioral biology and was a landmark for a new paradigm in the study of the evolution of animal behavior. Because males produce more, smaller, and cheaper gametes sperm , their reproductive success is presumed to be maximized by many indiscriminate matings. Females, who produce fewer, larger, more costly gametes eggs , are thought to maximize their reproductive success by fewer, more discriminate matings. Males are viewed as having greater potential fertility than females, and females are seen as the limiting source. It is because of this difference that conflict arises. Females have a higher initial investment, so they should choose the best mate for their offspring. Females in some species also provide more parental care than males. This differential investment leads to an increased variation in male and female reproductive success. In this theory, then, males are selected to compete for access to females for a summary of modern changes and revisions to this theory, see Kokko and Jennions Sociobiology influenced the field of primatology, as well as other fields of animal behavior, in a number of ways, but the primary effect was to shift the focus from populations to the individual as the target of natural selection. Additionally, as many of the dominant primatological practitioners today were enculturated academically during the s and s they are heavily influenced by the Wilsonian sociobiological thesis. Not only did sociobiology stimulate new questions about behavior; it also transformed many existing questions and, in doing so, redirected theoretical models away from social science interpretations towards

more biological ones. So, over the last 25 years among those researchers influenced by sociobiology there has been a shift from descriptive approaches to behavior which focused on the proximate mechanisms involved to more ultimate causal approaches. This changed how research questions were formulated and hypotheses were constructed, and it directed the interpretation of data and subsequent results. In extreme cases, instead of first collecting the data and then figuring out what the animals were doing based on patterns in those data, some researchers initiated field research with very specific preconceived notions of the way behavior should work. Evolutionary psychology so named because it is a combination of evolutionary biology and cognitive psychology is the contemporary heir to sociobiology, and it, too, invokes aspects of Darwinian theory to give evolutionary weight to notions of why humans act the way they do. The diversity of species and eco-types currently in the primatological database has altered our 1 Relevant evolutionary psychology texts include Barkow et al. For assessments and critiques of evolutionary psychology, see Ehrlich and Feldman ; Jones ; Lloyd ; Oyama ; Rose and Rose ; Stanford Complexity in behavior and grouping patterns has been observed within primate species across a wide range of habitats e. As data sets increase, and flexibility becomes more visible at the level of the individual and the group—and therefore in social organization, it becomes abundantly evident that social organization is an emergent property Allen and Starr that has characteristics not readily reducible to the context-specific interactions between individual animals that produce it. Despite the reductive influence of sociobiology, primatology has taken great leaps in its knowledge of the morphological evolution of the primates over the past decades. The ability to assess and analyze genetic and physiological systems has revolutionized the way we go about asking and answering questions regarding our phylogenetic position and its relationship to the evolution of human society. Modern neo-Darwinian theory, specifically current behavioral ecological approaches, and more than a half-century of primatological data have placed us, at the beginning of the twenty-first century, in a position to make greater strides into the mysteries of primate social life, both nonhuman and human, than ever before. What Do they Tell Us? To fully understand modern humans we have to examine our place in the natural world. Since all primates share some morphological and behavioral characteristics based on our common evolutionary history , comparative primate studies can help us reconstruct how early hominines those human ancestors and relatives on our lineage after the split with the African apes might have adapted to different environments. By gaining insight into how early hominines lived, we can better understand ourselves today. This means remembering certain precautions: In what follows, we will examine two pivotal topics--male aggression and male dominance--as examples of the way in which complex human behaviors have been explained by extrapolation from hypothesized primatological behavioral adaptations. These topics are important for our understanding of human gender roles and aggression, and they have recently taken center stage in the popular scientific literatures to exemplify the biological basis of certain human behaviors. We will outline the current popular representations of the topic, discuss how these representations contrast with the actual complexity of the phenomenon, and then examine the primate data and consider how they compare to popular conceptions. We will show that the 9 diversity and complexity of the primate data are in tension with, and ultimately challenge reductionist theories in sociobiology and evolutionary psychology. Male Aggression Several recent books propose that humans are adapted to hate and kill their enemies, and that heightened aggression often resulting in murder is a viable evolutionary strategy, especially for males R. Wright ; Wrangham and Peterson ; Ghiglieri Such works argue that male violence is an important adaptive trait, a product of millions of years of specific evolutionary trends resulting in adaptations favoring violent aggression. The benefits primate males can derive from exhibiting these behaviors are argued to be, in the long term, evolutionarily adaptive strategies: Therefore, it is assumed that if primate males in many environments do exhibit these aggressive patterns, and thus this behavioral profile is most likely a primate-wide trend, so humans should have it too. In other words, it is assumed these behavioral patterns have, over time, come to dominate male human behavior. Do the data support these assertions? Of the number of hypotheses regarding male aggression towards females and infants that have been set forth, none are fully supported across most primate taxa, and there remains much contention about the

data that have been offered to support such hypotheses see Sussman ; Sussman and Garber in press. Nonhuman primate studies can indeed help to shed light on the biological basis for behaviors and our shared primatological heritage. Yet, as many authors e. However, it is also true that much of the causation for human aggression, the socio-political and economic contexts of war, for example, lie firmly in the domain of modern human existence. The concept of aggression in the nonhuman primates can be elusive, and there are important aspects of this trait we need to keep in mind when looking at its relevance to humans. First, there are diverse types of aggression that can achieve similar ends. Aggression is neither simply defined nor easily quantified. For example, primate aggression can range from simple threats to contact fighting and even to vocal contests between opponents who cannot see each other. These types of aggression can have similar outcomes depending on the interactive history of the individuals and their species, as well as on the specific environment in which the 11 behaviors are exhibited. Amongst the primates there are many aggression response repertoires, and context is important in how an individual will respond Sussman and Garber in press. Second, it is an open question whether more aggressive males are reproductively most successful, that is, whether being more aggressive enable those individuals more successful mating opportunities they might otherwise not have. Since we are concerned with adaptations, the relationship between male aggression and access to mating opportunities is an important variable. Other questions relevant to an examination of aggression include the following. Is the situation in which the data were collected for other primates directly relevant to humans? Do we have quantitative data for any of the apes, our closest relatives? Do individuals within a population practice multiple, variable strategies? These questions must be answered before one can attempt to construct theories and models regarding the evolutionary value of aggressive behavior in humans. Shifting View on Male Aggression Early primate field studies centered on savanna-living baboons, and these studies set the precedent for viewing male dominance through aggression as the defining element of male control over females and stable group living. Even as primate studies began to illuminate the variability of social patterns in nonhuman primates see Fedigan ; Fuentes ; Strier , the notion that aggressive males controlling females is a central tendency in primate social life continued to predominate. The large baboon males nearly 12 times the size of females were seen as the anchors of the society, keeping control of wayward females and scattered offspring via aggression and power imbalance. This view persisted even in light of a growing body of conflicting data see, for example, Rowell , and It was only relatively recently that we have begun to see what characterizes most primate species: Recently, our attempts to understand aggression have gone beyond behavioral observations, as such, to include more complex and reciprocal interactions between hormones and behavior. Previously, testosterone and other androgens were associated with both aggression and reproductive success in a direct causal relationship: Conveniently for pop-theorists, males tend to have higher levels of testosterone than females in primates. These studies conclude that aggression sometimes plays a role in access to females and that testosterone is related to aggression, but social factors probably propel hormones at least as much if not more than hormones trigger specific behaviors. This means that social complexities--the ebb and flow of interactions, life histories and inter-individual relationships affiliative and aggressive --probably exert more influence on overall reproductive 13 success than does aggression alone. In fact, one can argue that aggression does not occur by itself and may only be a portion of the relevant behavioral patterns that males, and females, engage in over the course of their lives as they eat, sleep, associate with others, copulate, and occasionally fight. The relationships between androgens testosterone and others and aggression, mating and other social interactions are complex and non-linear Berkovitch , ; Sapolsky , So how has this renaissance in primatological investigations regarding the complexities of male aggression impacted the popular science literature? We would say, not very much. A quick search of the Lexis-Nexis database or a perusal of the New York Times review of books immediately leads one to assume that aggression is very much a major driving factor in our evolutionary past, characterizes our primate relatives, and continues to be the major player in our evolutionary patterns today. The Ape Evidence Of all primate species, we are particularly concerned with the evidence on chimpanzees, and to a lesser extent gorillas, in view of their close phylogenetic relationship to

humans. However, in interpreting these observations, two points need to be kept in mind. First, there are variable interpretations of the data on chimpanzee and gorilla aggressive behavior and a general underestimation of the strong possibly primary role that cooperation plays in these ape societies Aureli and de Waal ; de Waal Second, chimpanzees and gorillas have been evolving on their own for about the 14 same length of time as humans, so that any correlation we find in modern human and chimp or gorilla behavior does not necessarily reflect an ancestral condition for any of these species Sussman What do the data on our ape cousins suggest? The data show that violent, lethal behavior is not a common phenomenon in chimpanzees across the board, but that in the eastern subspecies it is relatively common. Dyadic violence one-on-one conflict has not been observed to lead to deaths in chimpanzees Wrangham However, intercommunity coalitionary attacks attacks by multiple individuals between different groups of chimpanzees have resulted in deaths. At Gombe, in studies conducted over a span of 40 years, there have been six observed and three strongly inferred instances of lethal aggression. At Mahale, in 35 years there have been six inferred instances. At Kibale, across thirteen years of observation, three instances of lethal aggression were observed and two inferred. At the other main chimpanzee study sites, Bossou 24 years , Tai 21 years , Wamba 26 years , and Lemako 17 years , no deaths resulting from intercommunity or other lethal aggression has been observed or inferred Wilson and Wrangham in press; Wrangham

7: Emphasis, Dominance And Focal Point | www.enganchecubano.com

And this is why the authors avoid making hard-and-fast distinctions between dominance and submission—for humans, too, seem capable of shifting from one role to the other.

Show Context Citation Context Huang [18], for example, showed that camera angle can influence perceived social dominance in a negotiation task performed using videoconferencing. The extent to which any participant in a Camera angle affects dominance in video-mediated communication by Wei Huang, Judith S. Olson - In Proc. CHI , " Physical proximity and appearance guide people to interact with each other in different ways [1,6]. Monitors and camera zooms make people look close or far, monitors and camera angles can be high or low making peopl Monitors and camera zooms make people look close or far, monitors and camera angles can be high or low making people look tall or short, volume can be loud or soft, making people sound assertive or submissive,—all independent of the true physical characteristics or intentions of the participants. Here we test the apparent height of a person on how dominant they are in a group decisionmaking task. We found that the artificially tall people had more influence in the group decision than the artificially short people. The participants were instructed to work on a problem privately and then negotiate a common solution through VMC. Each participant completed the ran Kenny, Martin Buss " Abstract " Recent research focuses on developing robots that are meant to be partners of humans instead of pure machines. This makes enhanced communication necessary. Especially in scenarios embedding physical interaction between the two partners dominance is an urgent matter. To overcome one-sided dominance as in passive following or trajectory replay in favor of intuitive collaboration, human-human collaboration and the involved dominance distribution needs to be addressed. Even though some attempts are reported in literature, to our best knowledge no experimental analysis of dominance distribution in a kinesthetic task reports actual values of dominance. Therefore, the current paper discusses dominance measures appropriate in haptic interaction and investigates the dominance distribution in a tracking-task experiment. In the analysis we focus on the influence of mutual haptic feedback between the partners on dominance distribution by contrasting this condition to vision-only partner feedback trials. Furthermore, this paper investigates the consistency of dominance behavior across different partners based on methodologies transferred from social psychology. Results show that participants work with a dominance distribution, whereby the feedback condition does not effect this distribution. A high amount of variability in individual dominance behavior can be considered person dependent. Here, feedback has an effect as the dominance behavior is even more stable across partners when mutual haptic feedback is provided. It is important to note that dominance is unlike domineeringness a dyadic variable and hence is only present in interaction. Dominance complementarity therefore implies that when one partner is do Past research indicates that short-term exposure to nonviolent sexual media stimuli can produce cognitive changes in men which, in turn, can affect their behavior toward women. This study explored differences among these behavioral effects based upon sexual degradation in film content and male view Seventy-one men viewed one of three films: The men then interacted with women in problem-solving dyads that were recorded on videotape. Men who viewed either sexually-explicit film displayed more dominance and anxiety than did the men who viewed the non-sexual film. In addition, men who viewed the degrading sexual film displayed less anxiety, but more dominance, than men who watched the non-degrading sexual film. Traditionally pornography research has investigated the effects of violent versus Show Context Citation Context Measures of sexual interest or bids for intimacy in studies of flirting in natural settings recognize a leaning or moving toward the other Givens, ; McCorm Interactivity in human-computer interaction: A study of credibility, understanding, and influence by J. Allspach D - Computers and Human Behavior , " Advancements in computer technology have allowed the development of human-appearing and-behaving virtual agents. This study examined if increased richness and anthropomorph-ism in interface design lead to computers being more influential during a decision-making task with a human partner. In addition, user

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experiences of the communication format, communication process, and the task partner were evaluated for their association with various features of virtual agents. Study participants completed the Desert Survival Problem DSP and were then randomly assigned to one of five different computer partners or to a human partner who was a study confederate. Participants discussed each of the items in the DSP with their partners and were then asked to complete the DSP again. Results showed that computers were more influential than human partners but that the latter were rated more positively on social dimensions of communication than the former. Exploratory analysis of user assessments revealed that some features of human-computer interaction e. Discussion focuses on the relation between user perceptions, design features, and task out- by Arijit Chatterjee, Donald C.

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8: The relationship between directional turn and dominance (Book,) [www.enganchecubano.com]

Directional correlations between tracks of dog pairs, the resulting leadership network and the results of the dominance questionnaire. We detected frequent short-term interactions and leading tendency differences between dog pairs within the group.

Evidence[edit] Directional selection occurs most often under environmental changes and when populations migrate to new areas with different environmental pressures. Directional selection allows for fast changes in allele frequency, and plays a major role in speciation. Analysis on QTL effects has been used to examine the impact of directional selection in phenotypic diversification. This analysis showed that the genetic loci correlating to directional selection was higher than expected; meaning directional selection is a primary cause of phenotypic diversification, which leads to speciation. The QTL sign test compares the number of antagonistic QTL to a neutral model, and allows for testing of directional selection against genetic drift. Another example is the beak size in a population of finches. Throughout the wet years, small seeds were more common and there was such a large supply of the small seeds that the finches rarely ate large seeds. During the dry years, none of the seeds were in great abundance, but the birds usually ate more large seeds. Their beaks range from large and tough to small and smooth. These fish evolved within the same habitat, but have a variety of morphologies , especially pertaining to the mouth and jaw. The cross between *Labeotropheus fuelleborni* subterminal mouth for biting algae off rocks and *Metriaclima zebra* terminal mouth for suction feed allowed for mapping of QTLs affecting feeding morphology. Using the QTL sign test definitive evidence was shown to prove that directional selection was occurring in the oral jaw apparatus. However, this was not the case for the suspensorium or skull suggesting genetic drift or stabilizing selection. Individuals migrate to the same rivers in which they were born to reproduce. These migrations happen around the same time every year, but Quinn et al. In this study two populations of sockeye salmon were observed Egegik and Ugashik. Data from provided by the Alaska Department of Fish and Game were divided into five sets of seven years and plotted for average arrival to the fishery. After analyzing the data it was determined that in both populations average migration date was earlier and was undergoing directional selection. The Egegik population experienced stronger selection and shifted 4 days. Water temperature is thought to cause earlier migration date, but in this study there was no statistically significant correlation. The paper suggests that fisheries can be a factor driving this selection because fishing occurs more in the later periods of migration especially in the Egegik district , preventing those fish from reproducing. Because the main cause for directional selection is different and changing environmental pressures, rapidly changing environments, such as climate change, can cause drastic changes within populations. Typically directional selection acts strongly for short bursts and is not sustained over long periods of time.

9: Directional Drilling Terms Defined (www.enganchecubano.com)

DIRECTIONAL TERMS FOR ANATOMY AND PHYSIOLOGY 1 Anatomy- DIRECTIONAL TERMS study guide by dawnroberts includes 13 questions covering vocabulary, terms and more.

Breaking the concept down into its component parts: As the name implies, you can slice in both directions of the relationship rather than just one way. Internally, two-way filtering expands filter context to query a superset of your data. There are two types of cross filters: One-way and two-way filtering. One-way is the traditional many-to-one filter direction between fact and dimensional tables in that relationship. Two-way is a cross-filter that enables the filter context of one relationship to be used as the filter context for another table relationship, with one table common to both relationships. Bi-directional cross filters can be an easy fix to the many-to-many query design problem that has challenged tabular and Power Pivot developers in the past. When creating a bi-directional cross filter, keep the following points in mind: Think before you enable two-way filters. If you enable two-way filters everywhere, your data could be over-filtered in ways that you might not expect. You might also inadvertently introduce ambiguity by creating more than one potential query path. To avoid both issues, plan on using a combination of one-way and two-way filters. Do incremental testing to verify the impact of each filter change on your model. Analyze in Excel works well for incremental testing. As a best practice, periodically follow that up with tests using other reporting clients so that there are no surprises later. Note Starting in CTP 3. If you enable bi-directional filters by default, SSDT will enable two-way filtering only if the model clearly articulates one query path through a chain of table relationships. Set the default Single directional filters are the default. You can change the default for all new projects created in the designer, or on the model itself when the project already exists. Set Default filter direction to either Single direction or Both directions. Alternatively, you can change the default on the model. In Solution Explorer, select Model. Walkthrough an example The best way to appreciate the value of bi-directional cross filtering is through an example. Consider the following dataset from ContosoRetailDW , reflecting the cardinality and cross-filters that are created by default. Note By default, during data import, table relationships are created for you in many-to-one configurations derived from the foreign key and primary key relationships between the fact table and related dimension tables. Notice that the filter direction is from dimension tables to the fact table -- promotions, products, dates, customer, and customer geography are all valid filters that successfully yield some aggregation of a measure, with the actual value varying based on the dimensions used. For this simple star schema, testing in Excel confirms that data slices nicely when filtering flows from dimension tables on rows and columns to aggregated data provided by a Sum of Sales measure located in the central FactOnlineSales table. As long as measures are pulled from the fact table and the filter context terminates at the fact table, the aggregations will be filtered correctly for this model. But what happens if you want to create measures elsewhere, such as a distinct count in the products or customer table, or an average discount in the promotion table, and have an existing filter context extend to that measure. Notice the repeating values for Count Products. At first glance, this looks like a missing table relationship, but in our model, we can see that all the relationships are fully defined and active. In this case, the repeating values occur because there is no date filter on rows in the product table. After adding a two-way cross filter between FactOnlineSales and DimProduct, the rows in the product table are now correctly filtered by manufacturer and date. Learn step-by-step You can try out bi-directional cross filters by stepping through this walkthrough.

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A rock painting of the Thompson river Indians, British Columbia Age of rebellion character sheet George Bernard Shaws Pygmalion Kenya 1999 population and housing census Greek vegetarian cookery Immersed In The Splendor Of God 11th accounts book in hindi Keynesian aggregate expenditure model ALL THAT GLITTERS (All That Glitters, No 7) Notifier nfs 320 installation manual 2009 gl1800 service manual True spiritual freedom in your home. Oxford handbook of foundation programme Uccelli de gabbia e de voliera Rifts Dimension Book 11 Dyvall Hell Unle (Rifts) Officer in nineteenth century Russian literature Expanded CAG Repeats Tenting on the plains; or, Genl Custer in Kansas and Texas Childhood, boyhood, youth. The incursion. A landed proprietor. The cossacks. Sevastopol 2003 National Longitudinal Survey of Women (03NLSW) Note on a specimen of Diploxylon from the coal-formation of Nova Scotia Building a future on the past. Designs of William Morris. 5]. Enrichment masters National rules for electrical installations 4th edition Multiphase Phenomena and Cfd Modeling and Simulation in Materials Processes A book of sleep il sung na Merge a edition adobe Koi and the Kola Nuts with Poster Clartes et ombres du siecle des lumieres Light at the mouth of Otter Creek, Lake Champlain. What is sport development Physiotherapy in occupational health Mishmash and the Venus flytrap Me, an evangelist? Yes Is Better Than No Polarities of the Twelve Planes/t16 Articles on american environmental history Policy issues and research opportunities in industrial organization. The Economist numbers guide