

Variation, a precious lesson. Why we need to keep in mind the origin and meaning of *to vet*, *to fit* and “*survival of the fittest*”

Variatie, een belangrijke les. Waarom we de oorsprong en betekenis van de Engelse woorden to vet, to fit en de uitdrukking “survival of the fittest” moeten onthouden

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SAMENVATTING

The expression *survival of the fittest* most often has a misleading connotation in contemporary ears and minds not familiar with genetics and the scientific basis of breeding. Among live organisms, heritable variation is a prerequisite for survival of a species in changing conditions of life. Variants *fitting* best into new conditions survive and will have the greatest chances to reproduce themselves. This is the meaning of *fit* in the well-known expression ‘survival of the fittest’, coined by Herbert Spencer on Darwin’s idea of ‘natural selection’. In order to understand this, a short linguistic description is given, starting with *to vet*, meaning ‘to examine thoroughly’, a relatively recent expression (19th century), which at first sight seems to originate from the examinations done by veterinarians (vets) on racing horses, before they are allotted to certain categories in the races. Nowadays the term is especially used in the context of checking persons applying for jobs, business takeover bids and similar situations involving a certain degree of trustworthiness. *To fit* has a much older pedigree. The earliest attestations are found in mediaeval texts relating military or fighting episodes in which the adversaries are considered to be of equal power. This survived later on in horse racing competitions and gradually acquired the sense of *fitting* one thing into another, or to *fit* into a category. For living organisms, to *fit* into prevailing conditions of life is of utmost importance. It was only in the previous century that the meaning of *fit* changed into healthy and strong, possibly also influenced by the use of this term in racing competitions.

ABSTRACT

De uitdrukking *survival of the fittest* door Herbert Spencer gebruikt voor het resultaat van wat Charles Darwin *natural selection* noemde, kernbegrip in de evolutieleer, kan actueel potentieel ernstige misverstanden teweegbrengen. In de tijd van Darwin en Spencer betekende *the fittest*, diegene die het best bij een bepaalde (levens)omstandigheid past of die het beste erfelijke potentieel bezat om daarin te passen of zich aan te passen. Voor levende soorten is variatie een essentiële voorwaarde om in veranderende competitieve omstandigheden te blijven voortbestaan. De basis van Darwins evolutietheorie is dan ook erfelijke variatie binnen de soorten. Die laat toe dat min of meer passende varianten voorkomen die kunnen overleven en reproducen. Minder aangepaste vinden minder voedsel, worden verdronken en verdwijnen tenslotte: ze sterven uit. Ze worden op natuurlijke wijze weggeselecteerd. Dit is natuurlijke selectie.

In de loop van de vorige eeuw nam een heel andere woordbetekenis van *fit* de overhand: die van ‘gezond, in goede lichamelijke conditie verkerend’. Om dat te begrijpen wordt eerst een korte historische beschrijving gegeven van twee Engelse termen *to vet* and *to fit*, die lange tijd vooral gebruikt werden in paardenwedrenmilieus. *To vet* betekent zorgvuldig onderzoeken op eigenschappen en geschiktheid alvorens toegelaten te worden in races, of, voor wat mensen betreft, in bepaalde functies. De term wordt in de literatuur vermoedelijk ten onrechte gelinkt aan veterinarian (*vet*). *Fit*, oorspronkelijk gebruikt voor ridders en militairen in de betekenis van aan elkaar gewaagd zijn, werd vooral toegepast bij nagenoeg even snelle renpaarden om toegelaten te worden tot welbepaalde wedrennen. Later werd *to fit* meer in het algemeen gebruikt om ‘bij elkaar (doen) passen’ aan te duiden en in de vorige eeuw werd de notie ‘in conditie’ of ‘*en forme*’ (in vorm) eraan gehecht, wellicht ook onder invloed van het woordgebruik in het renpaardenmilieu. Uiteindelijk kreeg de betekenis ‘gezond en/of sterk’ de overhand.

INTRODUCTION

Somewhat strangely, two similar sounding verbs, *to vet* and *to fit*, have been related with horses, with the way horses are trained, and with the practical organization of horse races. *To vet* has been connected with veterinarians examining race horses (Atwood Lawrence, 1989). *To fit* was similarly used in the competitive context – first in humans and later on in racing horses, but the meaning gradually changed to ‘healthy, strong and fast’ – not only in equines, but also, and overwhelmingly this time, in humans. This change may have led to grave misunderstandings, especially in the evolutionary context of *survival of the fittest*. Consequences of the change are of utmost importance, because ‘designer babies’ are currently appearing on the horizon.

First, we will take a look into the history of the terms *to vet* and *to fit*, which we will try to connect with each other. Then we will examine the manifold changes in the meaning of the verb *to fit*, paying attention mainly to the origin and meaning of the term in the context of biological evolution.

TO VET, VETTING, TO VET OUT

To vet is defined in English as making careful and critical examinations of persons or situations. Examples: proposals for vetting large takeover bids; examine thoroughly candidates for a job to ensure that they are suitable, especially when secrecy, loyalty, or trustworthiness is required. Synonyms are: *assess, check, inspect, evaluate, screen*. In this context, *vetting* is also used: the process of performing background checks of persons before offering them employment, etc.

Vet is also an abbreviation of *veterinarian*, a term which originated in the mid-17th century (in English), deriving from Latin *veterina*: animals of burden (Devriese, 2012). The colloquial abbreviation *vet* dates from the 1860s; the verb form of the same word, meaning ‘to treat an animal’, came a few decades later. Atwood Lawrence (1989) provides the following etymology: *to vet* was originally a horse racing term, referring to the requirement that a horse be checked for health and soundness by a veterinarian before being allowed to race. Thus it has taken the general meaning to check. According to the Oxford Etymological Dictionary, the earliest known usage is in 1891, and was applied mainly in the horse-racing context: “You should vet that horse before the races”. By the early 1900s, *vet* had begun to be used as a synonym for ‘evaluate’, especially in the context of searching for flaws. *To vet out* means ‘to reject something or somebody as a result of such examinations’.

TO FIT, FITTEN, FITNESS

It is not quite certain that the noun *veterinarian*, familiarly known as *vet*, bears an ontological relationship with *to vet*, *to vet out* and *vetting*. The fact that this is widely and intensely practiced in horse racing competitions, both in the past and in the present, may be a pure coincidence. The possibility that the verb *to vet* is derived from an older pronunciation of *fit*, as in the mediaeval (Middle) Dutch *vit, vitten*, and originated as the result of a contamination by *vet* in the sense of ‘veterinarian’, cannot be excluded. It should be noted that no attestations of *vet* or *vit* are known in Middle English.

Given the fact that the abbreviation *vet* is a relatively recent creation (second half of the 19th century), we have to examine more closely the very similarly sounding verb *fit* and adjective *fit*, which are of much longer standing in English. Before 1250, *fite* ‘an adversary of equal power, a match’; appears in *The Owl and the Nightingale*. Probably before 1400, *fitten* in the sense of ‘to marshall troops’ was used as a verb in *Morte Arthur*, and then later in the sense of being suitable (probably before 1420) in Lydgate’s *Troy Book*. This use is, to quote from Chambers Dictionary (Barnhart, 1988), ‘probably derived from the adjective sense of *fitting* or proper, perhaps influenced by, or even in some cases borrowed from, Middle Dutch *vitten*; ‘to suit’ (see: Verwijs and Verdam, 1916). It is equally possible that the expression originated and evolved independently in both languages.

Similar uses in other Germanic languages point to a source of *fit* in English through the early noun sense of ‘an adversary of equal power’, possibly with the still earlier sense of meeting or coming together. The meaning of *fit* as ‘to be or to make proper or suitable, supply or equip’ is not recorded before the late 16th century (Oxford). Much later, in the 19th century, the *fitting* of one thing into another and the way something *fits* are both attested (Chambers). The term *outfit*, involving the clothing and equipment required for an expedition (first attested 1787), is also well known.

With this largely military context in mind, one may not find it surprising that the word *fit* survived and flourished on horse racing tracks, where training for *fitness* is of utmost importance. Moreover, the shaping of optimal conditions for competition is a prerequisite in this branch: for horses to be allotted to certain races, not only do they need to acquire utmost *fitness*, they also have to be matched, selected on previous achievements, and possibly handicapped with extra weights, in order to constitute -literally- competitors of roughly equal value, resulting in thrilling competition ... and betting! The use of the term *fit*, meaning a status of excellent body condition, spread from racing horses to sportsmen, to become in re-

cent decades a general term designating good health, strong, in good bodily condition. It did not take long before the paramedical -more appropriately termed pseudomedical- branch of healthcare provided ample opportunity for the consumer to spend money on food supplements, training manuals, clothing, consultants, etc., as often as possible in well-equipped *fitness centers*. Thus *fitness* was born, to become in no time big business.

SURVIVAL OF THE FITTEST

The above described change in meaning of *fit* may have serious consequences in the interpretation of the expression *survival of the fittest*. It is well known that Charles Darwin's revolutionary work *On the Origin of Species* (1859) was in fact a part or abstract of the endlessly expanding and time consuming description of his meticulous observations on a multitude of varieties of phenotypes in a wide range of species, especially of domestic animals and cultivated plants. This resulted in the publication nearly ten years later, in 1868, of *The Variation of Animals and Plants under Domestication*. In the first edition of this study, Darwin asserted that the key concept of natural selection is the motor of evolution, as opposed to the artificial selection of animals and plants by humans. But, as he himself explained in the introduction to the second edition of this study (1875), he was not satisfied with this expression because it seems to imply an active intervention in nature by some invisible hand. To quote the clearly hesitating author: 'This preservation, during the battle for life, of varieties which possess any advantage in structure, constitution, or instinct, I have called Natural Selection; and Mr. Herbert Spencer has well expressed the same idea by the *Survival of the Fittest*. The term *natural selection* is in some respects a bad one, as it seems to imply conscious choice; but this will be disregarded after a little familiarity'. Nevertheless, Darwin borrowed the expression *survival of the fittest* used in the first volume of Spencer's *The Principles of Biology* (1864), to explain the ever changing life forms seen in plant and animal species. It should be noted that Spencer was not a biologist, but an erudite theorist publishing on an astonishing wide range of topics in very diverse scientific disciplines.

We should bear in mind that in Spencer's and Darwin's time, the word *fit* had not yet evolved to signify, or to imply, being strong and healthy. Facing a change, in environmental conditions, for example, the best *fitting* variants or individuals of a species will have greater chances to survive and to procreate than the less well adapted or less easily adapting. In order to have chances to survive in suddenly, as well as in gradually changing life conditions, a species has to have a certain degree of genetic and epigenetic diversity. This implies the possession of a varying gene pool. In other words: the old concept of 'pure' races

as a necessity for survival, is in fact detrimental. Hybridization with the necessarily prior creation of inbred lines, overwhelmingly successful during past decades in breeding for the higher production of domestic plants and animals, appears unlikely to be accepted and achieved among humans, but other techniques collectively termed genetic engineering, can possibly be applied.

And once again: in the biological context, we should avoid the nearly automatic inclination in contemporary discourse to use *fit* as connoting health and good bodily condition. *Fitness* in this biological sense has nothing to do with health and good bodily condition. The genetically schooled may be supposed to be familiar with this, but the concept of variation as a prerequisite for both natural and artificial selection remains largely unknown to the general public. The word *fit* has become 'corrupted'. This may have played a role in the reintroduction and general use of the expression '*natural selection*' after Darwin's death in 1882. To quote Spencer (1879) himself: 'How often misused words generate misleading thoughts'.

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