

UNPLEASANT ODOURS AS DISCUSSED IN RABBINIC LITERATURE WITH ACCOMPANYING SCIENTIFIC BACKGROUND

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It is written in the Torah "And you should cover that which comes out of you [faeces] ... your camp should be holy."¹ From this we learn that it is forbidden according to the Torah to recite any tephillot (prayers) or berachot (blessings) in the presence of human faeces, and in addition, in the surrounding area of their odours.

In this paper we shall attempt to look at the various halachot (Jewish laws) concerning a whole variety of unpleasant odours and examine the associated scientific material.

Odours

It is first necessary to understand general information on odours and especially on their intensity and tone. The Almighty gave man five senses, one of them being the sense of smell. There are some smells, including those of spices, trees, flowers, and fruits, which are so pleasant that one is obliged to recite a berachah when smelling them.²

In order for something to have a smell, it must be able to give off molecules which are generally light volatile chemicals, in the main organic compounds, sulphides and ammonia, which then float through the air until they enter the nasal orifices. These molecules then stimulate the sensory cells in the nose, which pass on an electrical impulse to the brain. The brain then interprets patterns in electrical activity as specific odours.³ The molecules leave the source and float through the air by a process of "diffusion". Diffusion is the movement of molecules from a region of high concentration to a region of low concentration.⁴ Hence, it is possible to detect an odour at a distance from its source. In 1855 Adolf Fick formulated in mathematical terms his laws of diffusion which enable one to measure the amount of a substance that will flow through a unit area during a unit time interval.⁵ There are two factors, (relevant to this paper) relating to odours. They are the intensity and the tone of the odour. The intensity of an odour can range from "very faint and not annoying" to "[very strong and] extremely annoying".⁶ This subject has been researched quantitatively and from the law of Stevens⁷ (based on the Weber-Fechner law⁸) there is (in simplified terms) a proportionality between the intensity of an odour and the concentration of the molecules

¹ Chumash Devarim 23:14-15

² Shulchan Aruch, Orach Chaim [henceforth: SA OC] 216

³ Gloria Rodriguez-Gil, M.Ed., "The Powerful Sense of Smell," *reSources*, (California Deaf-Blind Services), spring 2004, vol.11 no.2, pp.1-3

⁴ The Editors of Encyclopaedia Britannica, "Diffusion," (internet)

⁵ Steven L. Jacques et al, "Diffusion theory, Fick's 1st law of diffusion," (Oregon Graduate Institute, 1998, (internet)

⁶ Morris Forman Wastewater Treatment Plant Community Odor Survey, (MSD & Webster Environmental Associates Inc.), 1999-2000, slide no.6

⁷ Steven M. LaValle, "Stevens' power law," Virtual Reality, (internet)

⁸ R. D. Portugal et al, "Weber-Fechner Law and the Optimality of the Logarithmic Scale," *Minds and Machines, Journal for Artificial Intelligence, Philosophy and Cognitive Science*, (Springer/ Kluwer Academic Pub: Dordrecht, Netherlands), February 2011, pp.73-81

making up this odour. The tone of an odour, (as given in the Hedonic tone assessment) has a scale rating an odour from "pleasant" to "unpleasant".⁹ An odour can thus be unpleasant but of low intensity so that it does not annoy an average person.¹⁰

Following this scientific introduction, we can now start to understand the halachot concerning unpleasant odours.

Human Faeces

The Torah forbids reciting any tephillot or berachot or learning Torah, even in a foreign language, in the vicinity of human faeces.¹¹ The definition of "vicinity" is as far as one can see to the front, and four amot (about 2 metres) both to the sides and behind.¹² It is also forbidden in an area where one can smell the odour from the faeces plus a further four amot in any direction.¹³

What is the origin of the odour of human faeces? In the latter stages of digestion, which occurs in the digestive tract, there are countless micro-organisms. These produce a number of odourant volatiles, namely, hydrogen sulphide, mercaptans, indole and skatole, which then pass out of the body together with the faeces and give it the unpleasant odour.¹⁴ The longer the food remains in the digestive tract, the greater will be the concentration of these odourant volatiles and thus according to Stevens' law, the intensity of the odour. The time food spends in the digestive tract depends on the nature of the food.¹⁵ For example, fruits and vegetables have a short transit time, whilst beef, lamb and hard cheese have a much longer one.¹⁶

We can see from the Torah that davening (praying) is only prohibited in the presence of uncovered faeces.¹⁷ Thus, if the faeces were in a glass container (even though transparent) or in a hole in the ground covered by a foot, it would not then be forbidden to daven in that area.¹⁸ Since the faeces were then covered by the glass or the foot, the molecules of the odourous volatiles would not be able to escape and there would therefore be no odour in the area, thus permitting one to daven there. If, however,

⁹ Kirsten Sucker et al., "Odor frequency and odor annoyance. Part 1: assessment of frequency, intensity and hedonic tone of environmental odors in the field," *International Archives of Occupational and Environmental Health*, May 2008, vol.81, issue 6, pp.671-682;

¹⁰ Morris Forman, op. cit.; One could mention in passing that the intensity and tone of an odour have merited much world-wide research and attention since there is a general objection to noticeable odours, such as from faulty sewage, chemicals and petroleum+.

¹¹ Mishnah Berurah [henceforth: MB] 76:2

¹² SA OC 79:1

¹³ Ibid.

¹⁴ The Editors of Encyclopaedia Britannica, "Feces – Biology," (internet)"

¹⁵ Healthwise Staff, "Bowel Transit Time," (Michigan Medicine, University of Michigan), 28 March 2019, (internet)

¹⁶ "Digestion Time of various foods in the stomach," Wednesday 20 June 2012, (internet); "How Long Different Foods Take to Digest and Why It's Important to Know," (Bright Side), (internet). [There is a similarity here with the time one must wait between meat and milk and vice versa.]

¹⁷ Chumash Devarim 23:14

¹⁸ SA OC 76:1-2; MB 76:1

the faeces were not hermetically sealed off and the molecules could escape producing an odour in the area, the prohibition of davening in the area would still apply.

Should the human faeces have dried to such an extent that when thrown they would become desiccated, they would then be regarded as dust and one may then daven beside them,¹⁹ since, due to the desiccation, the microbial action stops very quickly and there is therefore no longer an unpleasant odour.²⁰

Baby's Faeces

There is a chapter in Shulchan Aruch on baby's faeces, which gives the stage in the life of the child at which one must distance oneself from its faeces and urine. This stage is reached when the child is able to consume a quantity of grain (namely, wheat, barley, spelt, oats, rye) the size of an olive in a short span of time.²¹ Different Rabbinical opinions give this span of time a range of from 2 to 9 minutes.²²

The reason for distancing from the faeces of a child only from the stage when he can consume grain under such conditions is that the intensity of the odour of faeces depends on the child's diet.

How does all this fit in today with the current practice of feeding babies? So long as the baby is fed exclusively on mother's milk, his faeces will be of a yellowish colour and almost odourless and even have a sweetish smell,²³ and there is therefore no problem in davening even in the presence of his faeces.

However, in some cases the baby is not being breast fed, but instead is being bottle fed with formula. In such a case it is more difficult for the baby to digest this formula and this results in his faeces being a paler yellow and having a more intense odour.²⁴

The next question is for how long a baby should be breast fed? The halachic sources give a specific length of time. This is written about by Rabbi Efraim ben Shmuel Danvil haKasher in his book entitled "Adnei Paz,"²⁵ where he rules that it is forbidden to stop breast feeding before a child is 24 months.²⁶

One could mention that the minimum age for weaning - 24 months plus – as given by the "Adnei Paz," is today given by the World Health Organization (WHO),

¹⁹ SA OC 82:1

²⁰ Question submitted to Wikipedia Reference Desk – Science, 2 March 2016, Odor of Human Feces

²¹ SA OC 81:1

²² Shiurai hamitzvot - "kedai achilat pras," *Encyclopaedia Yehudit*, (Michelet Herzog, Da'at, Limudei yahadut v'Ruach)

²³ BabyCenter staff, "Introducing solids," (BabyCenter: San Francisco, California), September 2017, (internet); BabyCenter Editorial Team, "Baby poop guide," (BabyCenter: San Francisco, California), August 2019, (internet)

²⁴ Tommee Tippee, "Baby poop – color, texture and smell, Baby poop when Bottle Feeding," (Mayborn Group, Newcastle-upon-Tyne, England), 2019, (internet)

²⁵ Rabbi Efraim ben Shmuel Danvil ha Kasher, *Adnei Paz*, (Altona, 1743), chap.87 dibur hamatchil: "ulda'ati"

²⁶ It is not forbidden to breast feed a child over 24 months old and the Shulchan Aruch states that under certain circumstances a healthy child breast feeds until the age of 4 years and a weak child till the age of 5 years. (SA YD 81:7).

and is adopted by many mothers, some of whom even continue breast feeding (together with complementary foods) well beyond the child's second birthday.²⁷

A question which arises from this ruling of the "Adnei Paz" is, does this mean that the child is fed *exclusively* on mother's milk until the age of 24 months or is this milk complemented with solid foods. The difference is that if the mother's milk is complemented by other foods, the faeces could have an unpleasant odour and thus require a distancing before davening in the vicinity of this odour.

What is the present practice regarding complementing the mother's milk with other foods? In other words, at what age does a baby start eating solid food? Until about the 1920s, babies were usually fed exclusively on mother's milk and it was considered harmful by many pediatrics to give them any other food before the age of one year.²⁸ It would thus seem that under such conditions there were no problems with odorous faeces. At a later period, views changed and it was proposed that from the age of 6 months solid food should gradually be added to the baby's diet,²⁹ and this seems to be the general practice today. However, there have been many discussions and trials on feeding babies until the age of one year (or even above that age) on mother's milk exclusively.³⁰

At the other extreme, there is a paper from the 1950s which reports on the feeding of babies who are just a few days old on cereal.³¹ Another paper refers to giving solid food to babies just a week or two after birth.³² There is also a report of giving desiccated steak to babies at one to three weeks of age.³³ Thus such babies by this age might well have odorous faeces.

What are the solid foods which are today given to the baby and at what age? One of the first foods is a cereal³⁴ – sometimes but not always a grain – and this causes the faeces to have a greater odour intensity. Being a grain, this coordinates well with the halachah of when to distance from a baby's faeces.

One should mention that the term "cereal" is not limited to grain but includes rice cereal and soya cereal.³⁵ Such cereals are not included in the halachic definition of grain, and one might thus be able to argue that if a baby could eat such cereals in the quantity and time stated above, there would be no obligation to distance oneself from

²⁷ "Nutrition - Exclusive breastfeeding." (World Health Organization), (internet)

²⁸ Report by the Committee on Nutrition "On the Feeding of Solid Foods to Infants," *Pediatrics*, (American Academy of Pediatrics), April 1958, vol.21, [henceforth: *Pediatrics 1958*] p.685

²⁹ Report by the Committee on Nutrition "On the Feeding of Supplementary Foods to Infants," *Pediatrics*, op. cit. June 1980 vol.65 no.6, pp.1178-1179

³⁰ "My one-year-old is exclusively breastfed. Are there other mothers that still exclusively breastfeed at this age?" (Quora, an American question-and-answer website), September 2014, (internet); Thread: Exclusive Breastfeeding for a Year, May 2010, (internet)

³¹ *Pediatrics 1958*, p.686

³² Robert Deisher et al, "A study of early and later introduction of solids into the infant diet," *The Journal of Pediatrics*, (University of Washington Child Health Center), August 1954, vol.45 issue 2 p.191

³³ *Pediatrics 1958*, p.687

³⁴ *Pediatrics 1980*, p.1179

³⁵ Ibid.

their faeces. Could this mean that the odour from their faeces is less intense than that from grain fed babies?

Cereal given to the baby is usually mixed with a liquid and is thus somewhat fluid. In halachah there is a difference between solids and liquids, regarding the time span and quantity that must be consumed for a berachah achronah (berachah recited after eating food) to be recited.³⁶ Does this mean that if the baby can consume an “olive size” of this fluid cereal in the allotted span of time then one must distance oneself from his faeces, or that since the cereal is fluid this criterion is not relevant? The Poskim (Rabbinical authorities) of today are divided on this question. Rabbi Yosef Shalom Eliashiv held that it is regarded as a liquid and hence one would not have to distance oneself, whereas in contrast, Rabbi Nissim Karelitz held that if one could drink the “size of an olive” of the liquid in the time taken to drink a “revi’it” (average opinion: about 120 mls), one would have to distance oneself.³⁷

Food given to a baby is not limited to a grain cereal; it could well be various other foods such as pureed sweet potatoes, bananas, peaches and pears. These foods will cause the baby's faeces to be more like an adult's and thus the intensity of the odour of the faeces will increase, hence one would have to distance oneself from the baby.³⁸ So why should the Gemara specifically mention a "grain". Maybe this was the basic food then given to a baby, or alternatively, perhaps even if the eating of the grain in this period of time did not make the faeces have an unpleasant odour, one would still have to distance oneself from the faeces, in the same way as one may not daven in the vicinity of certain chamber pots even if they are completely clean and odourless.³⁹

The Shulchan Aruch does not give the actual age of a baby as to when it becomes forbidden to daven in the vicinity of its faeces. However, a number of Poskim do give various ages. Rav Yaacov Emden in his book *Migdal Oz* gives the age of one year.⁴⁰ At a later date the *Misgeret Hashuchan* on the *Kitzur Shulchan Aruch* states that in places where they give the baby grain with milk, the age is three months old,⁴¹ whereas the *Shulchan Melachim*⁴² decrees an even lower age of ten weeks, and in the case where the mother is unable to breast feed the baby, one should be strict as to its faeces from the age of four weeks. These Poskim obviously came to these conclusions after a practical examination of the odour of the baby's faeces, and the reasons for their different quoted ages very likely arose from the different diets given to babies at different periods and locations.

³⁶ Rabbi Alexander Aryeh Mandelbaum, *Vezot Haberachah*, (Jerusalem, 5760), p.43

³⁷ Dirshu on SA OC vol.1, (Dirshu Hashem v'uzo: Jerusalem, Kislev 5774), chap.81 para.2

³⁸ Introducing solids, op. cit.

³⁹ SA OC 87:1; MB 87:1

⁴⁰ Rabbi Yaakov Emden, *Migdal Oz*, (Zhitomir, Ukraine, 5634) Birchot Horai, peleg 9, 2 achar shena'aseh ben shana...

⁴¹ Rabbi Chaim Yeshaya Hakohen, *Misgeret Hashulchan on Kitzur Shulchan Aruch Hashalem*, part 1. (Eshkol: Jerusalem), chap.5, *Misgeret Hashulchan* para. 3

⁴² Rabbi Moshe Tzvi Landau, *Shulchan Melachim*, (Kleinwardein, 5691), *Kitzur Shulchan Aruch*, chap.5 Halachah l'Moshe para.35

Finally the most extreme opinion was that of the Magen Avraham who writes that it is proper to distance oneself even from the faeces of an eight day old baby.⁴³ Could this mean that, unlike during the period of the Gemara, an exclusively breast fed baby's faeces had an unpleasant odour, possibly due to the mother's diet, or, that as we have seen above, even babies of a few days old were fed on cereals, possibly grain cereals?

Human Urine

According to the Torah, it is forbidden to daven in the vicinity of human urine whilst it is still leaving the body.⁴⁴ However, once it reaches the ground, the prohibition is only Rabbinic.⁴⁵ However, if the urine has an odour which would disturb people,⁴⁶ it is forbidden by the Torah to daven in its vicinity.

Urine is a liquid produced by the kidneys to remove waste products from the bloodstream, and it is yellowish in colour. Its chemical composition consists primarily of water plus urea and trace amounts of many things including enzymes, carbohydrates and fatty acids.⁴⁷

What gives urine its usually unpleasant odour? Fresh urine has only a very slight odour. However, if it is allowed to stand for period of time at room temperature, the bacteria in the urine will break down the urea present to form ammonia which has a strong odour.⁴⁸ The eating of certain foods, including asparagus,⁴⁹ onions and garlic, or suffering from certain illnesses, will also give an odour to urine.⁵⁰

One must even distance oneself from urine even if it has no odour.⁵¹ However, since this is only a Rabbinic restriction, one can nullify the urine by pouring a "reviyit" (average opinion: about 120mls) of water on it.⁵² However, should the urine have an unpleasant odour, one would have to pour a sufficient quantity of water on it in order to nullify the smell.⁵³ Obviously, the more intense the odour, the more water that is required to reduce the odour. This can be seen from Stevens' law, since as concentration

⁴³ Magen Avraham SA OC 81:1: He chose 8 days because that is the date of the Brit Milah, but he could have specified even younger than 8 days old. (What would he write about a baby girl?!)

⁴⁴ SA OC 77; MB 77:2

⁴⁵ MB 77:2

⁴⁶ Dirshu, SA OC, op.cit, chap.77 para.6; MB 77:2

⁴⁷ *The World Book Encyclopedia*, (Field Enterprises Educational Corporation: Chicago), vol.17, Urine p.8393

⁴⁸ Patricia Potter et al, *Fundamentals of Nursing*, ninth edition, (Elsevier Mosby: Missouri USA), p.1112

⁴⁹ C. Richer et al, Letters to the Editor, "Odorous urine in man after asparagus," *British Journal of Clinical Pharmacology*, 1989, vol.27, pp.640-41 [There are also a number of other papers on the effect asparagus has on the odour of urine]

⁵⁰ Josh Baum, "Foods that Affect the Odor of Urine," (Livestrong Foundation: Austin, Texas) (internet); Mayo Clinic Staff, "Symptoms, Urine odor, Causes," (USA), (internet)

⁵¹ SA OC 77:1; MB 77:2

⁵² Ibid.

⁵³ MB 87:2

of the urine will then be less, so will be the intensity of the odour. It has been ruled that one could also use a liquid other than water to nullify the smell.⁵⁴

Flatulence

It is estimated that everybody passes gas between 10 and 20 times a day.⁵⁵ This gas is normally formed in the colon when the bacteria there acts on the undigested foods and produces a number of gases.⁵⁶ The non-odorous gases produced comprise nitrogen, hydrogen, carbon dioxide, methane and oxygen.⁵⁷ The odorous part of these gases is less than one per cent and comes from a combination of volatile sulphur compounds, mainly hydrogen sulphide. Smelling these compounds can be an extremely unpleasant experience.⁵⁸ The more concentrated the sulphur compounds, the greater the intensity and unpleasantness of the odour.⁵⁹ (It should be noted that it was originally thought that the cause of the smell was from compounds such as indole, skatole and ammonia.⁶⁰) Both the odorous and non-odorous gases are expelled from the body via the rectum. The quantity of gas produced depends on a number of factors. One of them is the food which has been consumed. Foods such as, beans, broccoli, cabbage, cauliflower and soy products will produce a large amount of gas.⁶¹ Experimental studies have shown that the amount of gas emitted in a single emission varies among individuals, probably because different people have different sensitivities to gaseous distention of the rectum. This study also showed that more gas was released during the day than when the individual was asleep.⁶²

Needless to say, for many reasons, it is advisable to reduce the quantity of gas passed. For this purpose, there are many medications, some of which can be purchased without a physician's prescription.⁶³ There are also medications to reduce the odour from the emitted gases, and these include tablets of bismuth subgallate and bismuth subsalicylate.⁶⁴

⁵⁴ Dirshu, SA OC, op. cit., chap 77 para.5

⁵⁵ Dr. Michael D. Levitt et al, "Evaluation of an extremely flatulent patient: Case report and diagnostic and therapeutic approach." *Journal of Gastroenterology*, 1998, vol.93, pp.2276-2281

⁵⁶ F. Azpiroz, "Intestinal gas dynamics: mechanisms and clinical relevance," *Gut*, 2005, vol.54 issue 7, pp.893-895

⁵⁷ F.L. Suarez, "Identification of gases responsible for the odour of human flatus and evaluation of a device purported to reduce this odour," *Gut*, 1998 vol.43, pp.100-104

⁵⁸ Xu Beixi, "How do I stop making smells/neutralise digestive system?" (Quora an American question-and-answer website), 24 January 2014, (internet)

⁵⁹ Suarez, op. cit.

⁶⁰ Ibid.

⁶¹ Azpiroz, op.cit; Harold McGee., *On Food and Cooking*, (Scribner: New York, 2004), p.486

⁶² J. Tomlin et al, "Investigation of normal flatus production in healthy volunteers," *Gut*, June 1991, vol 32 (6) pp.665-669

⁶³ Gwen B. Turnbull, "The Ostomy Files: The Issue of Oral Medications and a Fecal Ostomy," *Ostomy Wound Management (OWM)*, (Health Management Publications: Pennsylvania USA), March 2005, vol.51 issue 3

⁶⁴ Ibid; Dr. Justin Bailey et al, "Effective Management of Flatulence," *American Family Physician*, (American Academy of Family Physicians: Leawood, Kansas), 15 June 2009, vol.79 (12) pp.1098-1100

The passing of gas has halachic ramifications. One of them concerns Tephillin. One is not allowed to pass gas when wearing Tephillin and people who have problems in this respect are strictly limited as to the time they may wear Tephillin.⁶⁵ One of the reasons for not sleeping with Tephillin, or not wearing them at night is that one might pass gas whilst wearing them.⁶⁶ It would seem that even if there is no odour from these expelled gases, their emission would still be forbidden whilst wearing Tephillin.

So long as there is a smell arising from the passing of gas, there are limitations in the recitation of tephillot (even without Tephillin) and the studying of Torah.⁶⁷ The recitation of tephillot would have to stop until the smell had passed away. However, apart from the person who caused the smell, the others in the room could continue learning.⁶⁸

In a short responsa, Maharil Diskin writes that it is possible that if three people learning Torah together all pass gas at the same time giving a resultant unpleasant odour, they can all continue learning Torah, since the majority of the intensity of the smell is not from any particular one of them.⁶⁹ However, this assumes that the intensity of the smell from each of them is identical. This is not always the case. The intensity of the odour depends on the concentration of the sulphides emitted during the gas emission. Thus if from one of them, the gas intensity is more than from the other two put together, it could be seen from Maharil Diskin's ruling that these two would be able to continue learning since the majority of the smell is not from them, and only the one whose intensity of odour was greater than that of the other two put together, would have to stop learning until the smell had completely dispersed.

Although the odour from flatulence is unpleasant and has halachic ramifications, it has recently been found by research at the University of Exeter in England, that hydrogen sulphide could be beneficial in small quantities to people suffering from certain diseases.⁷⁰

Animal Faeces and Urine

Unlike human faeces and urine from which one must distance oneself when davening, the same prohibitions do not apply, with a few exceptions, to the faeces and urine of animals and birds.⁷¹ However, if their faeces have an unpleasant odour, the same halachah will apply as for human faeces.⁷² The reason for the difference is that the diet

⁶⁵ SA OC 38:2; MB 38:2

⁶⁶ SA OC 30:2; MB 30:4

⁶⁷ SA OC 79:9

⁶⁸ Ibid.

⁶⁹ Rabbi Moshe Yehoshua Yehudah Leib Diskin, *Shut Maharil Diskin*, (Jerusalem, 5671), acharon, chap.5 para.4

⁷⁰ Science daily, "Rotten egg gas holds key to healthcare therapies," *Science News*, (University of Exeter, England), 9 July 2014, (internet)

⁷¹ SA OC 79:4

⁷² MB 79:4; MB, Biur Halachah OC 79, dibur hamatchil: tzoar chamor).

of many animals and birds is comprised of grass and similar vegetation, which results in odourless faeces and urine.⁷³ Now for the exceptions:

Donkeys: The Talmud Yerushalmi states that the soft faeces of a donkey that has come in from a journey will have a strong smell.⁷⁴ It is also written that the urine of a donkey which has come in from a journey will have a strong smell.⁷⁵ The Shulchan Aruch brings both these statements as halachah.⁷⁶ One might well ask: Why soft faeces and why a journey?

The greater the number of molecules associated with smell which reaches the nose, the greater is the intensity of the odour. When the faeces are soft, namely more liquid, the transfer of the molecules will obviously occur more readily and hence the faeces will be more odourous. Although under normal circumstance, the faeces of donkeys are hard, there are several things which can cause them to be soft. One is the eating of different or poor quality food, which could have occurred on its journey. Another is stress which could also be the result of a journey. Regarding the strong odour of the donkey's urine, the issue of coming in from a journey could indicate that the donkey had been working or exercising, and it could also be dehydrated which would cause its urine to be more concentrated and thus have a stronger odour.⁷⁷

Tarngolim aduma: Another species according to the Talmud Yerushalmi where one must distance oneself from their faeces is “tarngolim aduma”.⁷⁸ There are differences of opinion as to its identification, and the bird “turkey” has been suggested,⁷⁹ although turkey was apparently unknown in the Middle East at the period of the Talmud Yerushalmi.⁸⁰ Due to the fact that the diet of birds generally consists of less meat and more fruits and vegetables,⁸¹ birds’ faeces generally do not smell, unless the bird has some sort of infection or illness.⁸² However, a change, such as feeding the chickens whole grains (an excellent dietary choice⁸³) could (as with a baby) give the faeces an unpleasant odour. Indeed in 2014, a case was brought against a person in California for dumping chicken manure in a public place due to the offensive odour of the manure.⁸⁴

⁷³ “Why do human feces smell so bad compared to other mammals’ feces?” (Quora, an American question-and-answer website), December 2014, (internet)

⁷⁴ Talmud Yerushalmi, Masechet Berachot, perek 3 halachah 5; SA OC 79:5

⁷⁵ SA OC 79:6

⁷⁶ SA OC 79:5-6

⁷⁷ e-mails from Dr. David Hadrill, FAO Myanmar [Burma] ECTAD Country Team Leader, 24 February 2016, and Dr. Faith Burden, Head of Research and Pathology, The Donkey Sanctuary, UK, 24 February 2016

⁷⁸ SA OC 79:6

⁷⁹ MB 79:26; Dirshu, SA OC, op. cit., chap. 79 para. 38

⁸⁰ Rabbi Israel Meir Levinger, *Modern Kosher Food Production From Animal Source (Mazon Kasher min hachai)*, (Institute for Agricultural Research According to the Thora: Jerusalem, 1980, p. 47)

⁸¹ Nikki Moustaki, “All You Ever Wanted to Know About Bird Poop, Why doesn’t Bird Poop Smell?”, (From the Pages of Birds USA), 28 April 2015, (internet)

⁸² Alyson Kalhagen, “Bird Poop 101, Odors,” (The Spruce Pets), 3 February 2019, (internet)

⁸³ The Pet Bird Health Handbook, “Vegetables, Grains and Fruits,” (Carolina Veterinary Specialists: North Carolina), p. 7

⁸⁴ J. Harry Jones, “Chicken manure stink could be costly,” *The San Diego Union-Tribune*, 14 April 2014

Marten: The Talmud Yerushalmi⁸⁵ writes that one must distance oneself from the faeces of the marten. The Peirush Mibaal Sefer Charadim⁸⁶ notes that the reason that the marten was specifically mentioned was that it could be raised in one's house. The Shulchan Aruch quotes this Talmud Yerushalmi as halachah.⁸⁷

The marten is an agile member of the weasel family. There are a number of species of martens. They have bushy tails and large paws with semi retractable claws. They are omnivorous animals whose diet consists of squirrels, mice, rabbits, birds, fish, insects, and fruit.⁸⁸

During the latter part of the twentieth century research was done in Poland on the diet of martens that lived in the wild. The results showed that the available foods depended on the seasons. In the summer and autumn months their diet was mainly plant food, whilst in the winter and spring it was mainly animal food.⁸⁹ Thus the faeces of the marten would have a more unpleasant odour in the winter and spring. However, this might well be different when, according to the Talmud Yerushalmi, martens were raised in the house. If they were given a meat diet throughout the year, their faeces would always have an unpleasant odour, since meat takes a longer time to digest than plant food.⁹⁰

Cat: The Shulchan Aruch⁹¹ states that the faeces of a cat (as with several other animals) is like that of human faeces. The Be'er Hagolah brings the source as the Talmud Yerushalmi,⁹² although actually our editions of the Yerushalmi do not mention a cat. Rabbeinu Yonah writes that the odour of cats' faeces is unpleasant as that of the marten, and the reason that the Yerushalmi mentioned marten is that at that period they would raise martens in their houses in the same way as today we raise cats in our houses.⁹³

What makes the odour of cats faeces considerably more unpleasant than that of many other animals? The reason is the different diet of cats compared with many other animals. The main diet of herbivorous such as cows, sheep and rabbits is grass and other plants which are quick to digest and thus do not result in odourous faeces. In contrast, cats are obligate carnivores, they must eat meat. Cats, particularly those in the wild, therefore catch birds, rabbits, mice, squirrels, weasels, hares, and other small animals for their diet. The digestion time of protein containing products, such as meat, is long

⁸⁵ Talmud Yerushalmi, Masechet Berachot, perek 3 halachah 5

⁸⁶ Peirush m'Baal sefer Chareidim on Talmud Yerushalmi, Masechet Berachot, perek 3 halachah 5 dibur hamatchil: "mitzoat nemiya"

⁸⁷ SA OC 79:5

⁸⁸ Editors of Encyclopaedia Britannica – Marten, (internet)

⁸⁹ Jacek Goszczyński, "Composition of the Food of Martens," *Acta Theriologica*, 1976, vol.21 36: pp.527 534; Jacek Goszczyński, "Diet of foxes and Martens in Central Poland," *Acta Theriologica*, 1986 vol.31 36: pp.491-506

⁹⁰ The research by Goszczyński also included the diet of the fox which was almost entirely meat, could make its faeces even smellier than that of the marten.

⁹¹ SA OC 79:5

⁹² B'eir Hagolah 30 (on SA OC chap.79) writes "Yerushalmi [Berachot] 6d" - this is an older printing of the Talmud Yerushalmi

⁹³ Rabbeinu Yonah on the Rif, Berachot chap.3, (p.32) dibur hamatchil: "v'tzoat"

and so the food remains for a lengthy time in the large intestine. The longer it remains there, the greater the time the bacteria has in which to produce the various sulphides etc. which result in very odourous faeces. It should be mentioned that the cause of the foul-smelling faeces of cats is similar to that of human faeces.⁹⁴

Dogs and Pigs: The Shulchan Aruch states that one must distance oneself from the faeces of dogs and pigs, if one has put the skins of animals into these faeces.⁹⁵ Such a mixture will have a particularly unpleasant smell.

This mixture used to be employed in the tanning of animal skins and was used in the process of treating skins and hides of animals to produce leather. (These processes comprise several of the Avot Melachah of Shabbat.⁹⁶) The first stage was to clean the skins to remove any flesh and hair adhering to them, often using a lime solution. The next stage was "bating" the skins, namely softening the material, which was done by pounding faeces into the material. Bating was a fermentation process which relied on enzymes produced by bacteria found in the faeces. Among the faeces commonly used were those of dogs. Sometimes the faeces were mixed with water in a large vat, and the prepared skins were kneaded in the dung water until they became supple from bacterial enzyme action.⁹⁷ At a later stage in the preparation of the skins, alkaline dressings, whose ingredients amongst others included dog and pig faeces, were applied to the hides.⁹⁸

It is unnecessary to add that skins of an animal have a very unpleasant smell and with the addition of animals' faeces, the smell would be unbearable! So much so, that the tanneries were located outside the towns.⁹⁹

What is the situation if these skins are not mixed with the faeces of pigs and dogs? Both the Talmud Yerushalmi¹⁰⁰ and the Talmud Bavli¹⁰¹ discuss the question, and the Shulchan Aruch¹⁰² then rules that if the skins are mixed with these faeces one must distance oneself from them. If on the other hand they are not mixed with faeces, one need not do so provided the skins do not have a bad odour.

Rabbi Avraham Yosef (the son of Rabbi Ovadiah Yosef) writes that the food consumed by dogs today will result in smelly faeces.¹⁰³ An expert on clinical pet nutrition elaborates on this and writes that a change in a dog's diet can result in less

⁹⁴ Margaret Gates, "The Benefits of a Raw Meat Diet for Your Cat," (Feline Nutrition Foundation, Fairfax, Virginia, USA), 4 October 2015 (internet); Dr. Mike Paul, "Why do My Cat's Stools Smell so Bad?" (Pet Health Network, IDEXX, Westbrook, Maine, USA) 27 August 2014, (internet); Susan Leisure, "Dog Food That Helps With Smelly Stools," (The Nest), (internet) (a similar principle applies to other creatures); Quora, Why do human feces ..., op. cit.

⁹⁵ SA OC 79:4

⁹⁶ *Chayei Adam*, Hilchot Shabbat, klalim 32-36

⁹⁷ *The World Book Encyclopedia*, op. cit., vol.10, Leather, p.4346

⁹⁸ Ibid.; Tanning in the Seventeenth Century, (Historic Jamestowne), (internet)

⁹⁹ Tanning, Ancient methods of tanning, (Leathernet,) (internet)

¹⁰⁰ Talmud Yerushalmi, Masechet Berachot perek 3 halachah 5

¹⁰¹ Talmud Bavli, Masechet Berachot 25a

¹⁰² SA OC 79:4

¹⁰³ Rabbi Avraham Yosef, Tzoat k'lavim, (Sheal et Harav) Moreshet, 22 Tevet 5771 (internet)

smelly faeces. The expert explains that a firm faeces with a light smell and brown colour is the norm for healthy dogs. To achieve this, the dog should be fed a raw diet, which is easy for the dog to digest. However, in contrast, meat byproducts and grain are very hard for dogs to digest and the longer food remains in the dog's digestive tract, the greater will be the sulphur, which is formed as a result of the bacteria breaking down the food, hence the faeces will be more odourous.¹⁰⁴

Conclusion: It is advisable to look at one's surroundings before davening, otherwise in some situations one would have to daven a second time.¹⁰⁵

¹⁰⁴ Susan Leisure, op. cit.

¹⁰⁵ SA OC 76:8



reSources

Volume 7, Number 2
Oops! Couldn't email us with your address for "e-distribution"! Please try again at cdbs@pacbell.net and see the blurb on page 3 for further explanation!
Spring 2001

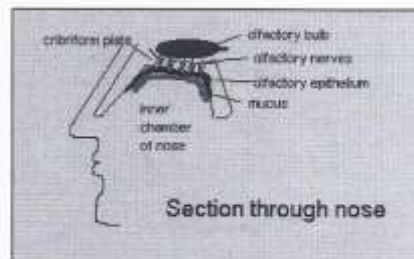
The Powerful Sense of Smell

by Gloria Rodriguez-Gil, M.Ed., DBL Educational Specialist

How the sense of smell works

The sense of smell, just like the sense of taste, is a chemical sense. They are called chemical senses because they detect chemicals in the environment, with the difference being that smell works at dramatically larger distances than that of taste. The process of smelling goes more or less like this:

1. Vaporized odor molecules (chemicals) floating in the air reach the nostrils and dissolve in the mucus (which is on the roof of each nostril).
2. Underneath the mucus, in the olfactory epithelium, specialized receptor cells called olfactory receptor neurons detect the odor. These neurons are capable of detecting thousands of different odors.
3. The olfactory receptor neurons transmit the information to the olfactory bulb, which is located at the back of the nose.



from www.cf.ac.uk/biol/staff/jacob/teaching/sensory/olfact1.html

4. The olfactory bulb has sensory receptors that are actually part of the brain which send messages directly to:
 - The most primitive brain centers where they influence emotions and memories (limbic system structures), and
 - "Higher" centers where they modify conscious thought (neo-cortex).
5. These brain centers perceive odors and access memories to remind us about people, places, or events associated with these olfactory sensations.

It is important to add that: "Our sense of smell is 10,000 times more sensitive than any other of our senses and recognition of smell is immediate. Other senses like touch and taste must travel through the body via neurons and the spinal cord before reaching the brain whereas the olfactory response is immediate, extending directly to the brain. This is the only place where our central nervous system is directly exposed to the environment." (von Have, Serene Aromatherapy)

Diffusion

PHYSICS

WRITTEN BY:

The Editors of Encyclopaedia Britannica

See Article History

Diffusion, process resulting from random motion of molecules by which there is a net flow of matter from a region of high concentration to a region of low concentration. A familiar example is the perfume of a flower that quickly permeates the still air of a room.

Ref 4



ECE532 Biomedical Optics
© 1998 Steven L. Jacques, Scott A. Prahl
Oregon Graduate Institute

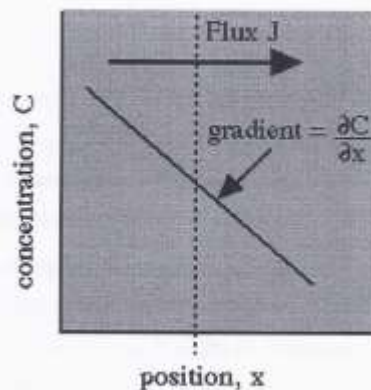
Diffusion theory

Fick's 1st law of diffusion

Diffusion occurs in response to a concentration gradient expressed as the change in concentration due to a change in position, $\partial C / \partial x$. The local rule for movement or **flux J** is given by Fick's 1st law of diffusion:

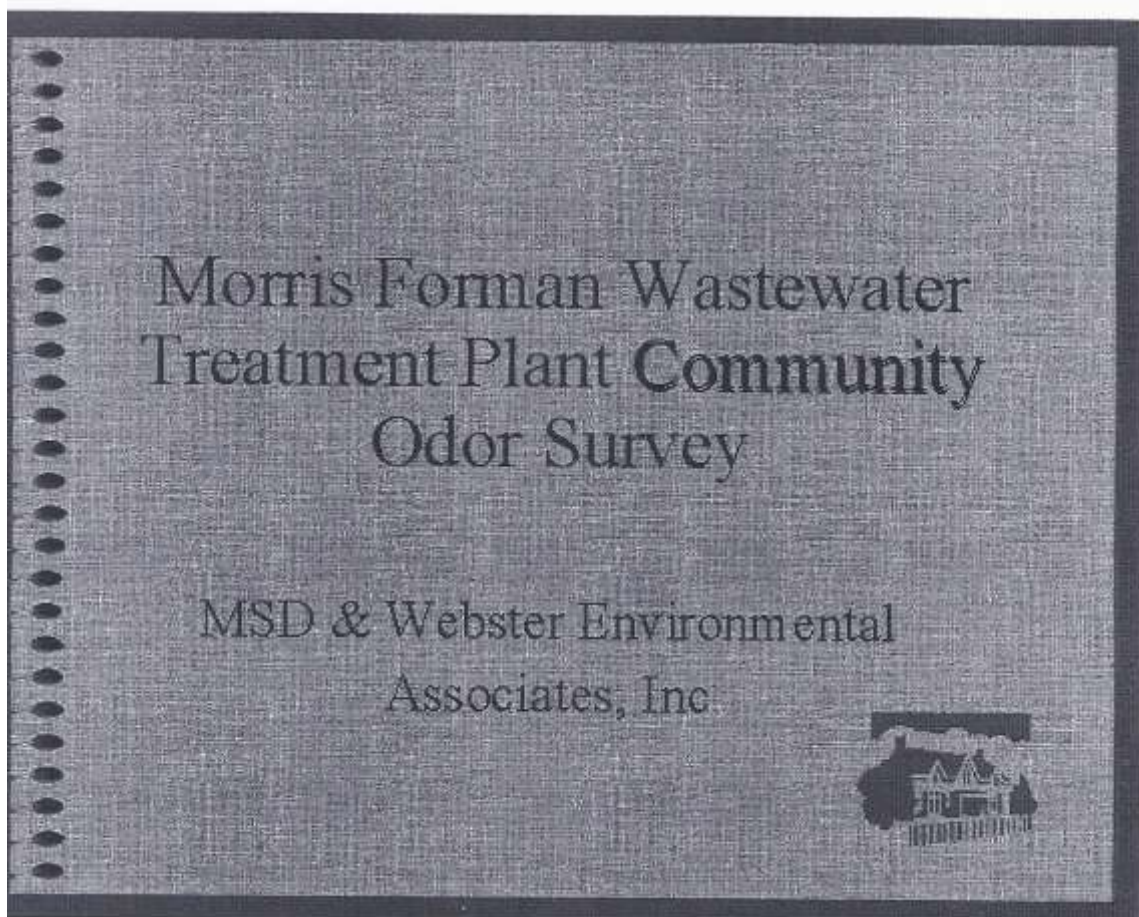
$$J = -\chi \frac{\partial C}{\partial x}$$

in which the flux J [$\text{cm}^{-2} \text{s}^{-1}$] is proportional to the diffusivity χ [cm^2/s] and the negative gradient of concentration, $\partial C / \partial x$ [$\text{cm}^{-3} \text{cm}^{-1}$] or [cm^{-4}]. The negative sign indicates that J is positive when movement is **down** the gradient, i.e., the negative sign cancels the negative gradient along the direction of positive flux.



The flux J is driven by the negative gradient $\partial C / \partial x$ in the direction of increasing x .

Ref 5



Odor Intensity Referencing Scale

- **Level 1 - very faint and not annoying**
- **Level 2 - faint and a little annoying**
- **Level 3 - noticeable and annoying**
- **Level 4 - strong and very annoying**
- **Level 5 - Extremely annoying**

VIRTUAL REALITY

Steven M. LaValle

Next: [Just noticeable difference](#) Up: [2.3 Human Physiology and](#) Previous: [Psychophysics](#) [Contents](#)
[Index](#)

Stevens' power law

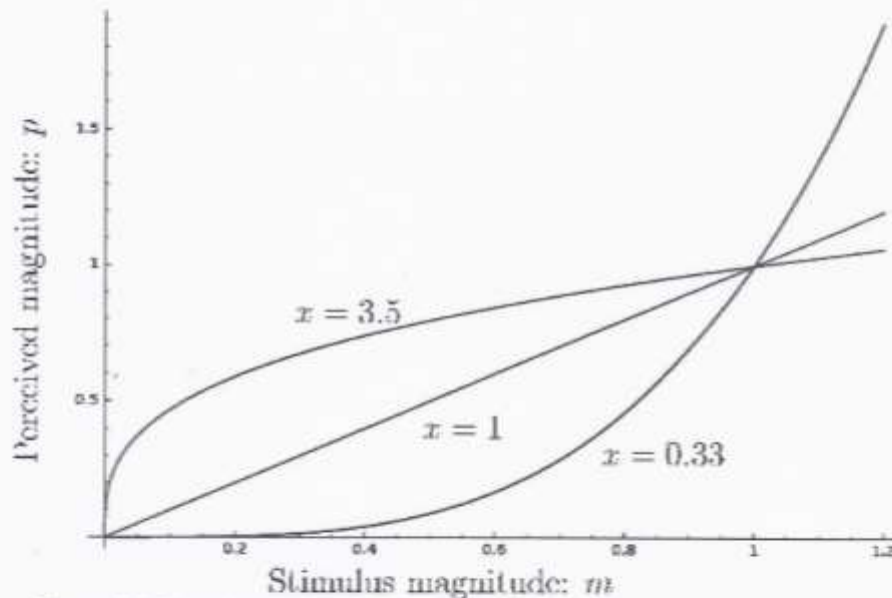


Figure 2.22: Steven's power law (2.1) captures the relationship between the magnitude of a stimulus and its perceived magnitude. The model is an exponential curve, and the exponent depends on the stimulus type.

One of the most known results from psychophysics is *Steven's power law*, which characterizes the relationship between the magnitude of a physical stimulus and its *perceived* magnitude [316]. The hypothesis is that an exponential relationship occurs over a wide range of sensory systems and stimuli:

$$p = cm^x \quad (2.1)$$

in which

- m is the magnitude or intensity of the stimulus,
- p is the perceived magnitude,
- x relates the actual magnitude to the perceived magnitude, and is the most important part of the equation, and
- c is an uninteresting constant that depends on units.

Note that for $x = 1$, (2.1) is a linear relationship, $p = cm$; see Figure 2.22. An example of this is our perception of the length of an isolated line segment directly in front of our eyes. The length we perceive is proportional to its actual length. The more interesting cases are when $x \neq 1$. For the case of perceiving the brightness of a target in the dark, $x = 0.33$, which implies that a large increase in brightness is perceived as a smaller increase. In the other direction, our perception of electric shock as current through the fingers yields $x = 3.5$. A little more shock is a lot more uncomfortable!

Weber-Fechner Law and the Optimality of the Logarithmic Scale

R. D. Portugal · B. F. Svaiter

Received: 14 September 2010 / Accepted: 2 December 2010
© Springer Science+Business Media B.V. 2010

Abstract Weber-Fechner Law states that the perceived intensity is proportional to the logarithm of the stimulus. Recent experiments suggest that this law also holds true for perception of numerosity. Therefore, the use of a logarithmic scale for the quantification of the perceived intensity may also depend on how the cognitive apparatus processes information. If Weber-Fechner law is the result of natural selection, then the logarithmic scale should be better, in some sense, than other biologically feasible scales. We consider the minimization of the relative error as the target of natural selection and we provide a formal proof that the logarithmic scale minimizes the maximal relative error.

Ref 8

Original Article

International Archives of Occupational and Environmental Health
May 2008, Volume 81, Issue 6, pp 671–682
First online: 12 October 2007

Odor frequency and odor annoyance. Part I: assessment of frequency, intensity and hedonic tone of environmental odors in the field

- Kirsten Sucker
- Ralf Both
- Michael Bischoff
- Rainer Guski
- Gerhard Winneke

Objective

Odors can be evaluated as being pleasant or unpleasant (hedonic tone), but this differentiation was not incorporated into environmental odor regulation. In order to study the hedonic-induced modification of dose–response associations for community odor annoyance a pertinent field study was conducted. This paper covers the first step, namely the development and validation of a standardized human observation strategy for the direct quantification of the frequency, intensity, and hedonic tone of environmental odors in the field.

Ref 9

ENCYCLOPÆDIA BRITANNICA

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Feces

Biology

Written by: [The Editors of Encyclopædia Britannica](#)

Alternative titles: *excrement; faeces; stool*

Feces, also spelled **faeces**, also called **excrement**, solid bodily waste discharged from the [large intestine](#) through the [anus](#) during [defecation](#). Feces are normally removed from the body one or two times a day. About 100 to 250 grams (3 to 8 ounces) of feces are excreted by a human adult daily. Normally, feces are made up of 75 percent water and 25 percent solid matter. About 30 percent of the solid matter consists of dead bacteria; about 30 percent consists of indigestible food matter such as cellulose; 10 to 20 percent is cholesterol and other fats; 10 to 20 percent is inorganic substances such as calcium phosphate and iron phosphate; and 2 to 3 percent is protein. Cell debris shed from the mucous membrane of the intestinal tract also passes in the waste material, as do [bile](#) pigments (bilirubin) and dead leukocytes (white blood cells). The brown colour of feces is due to the action of bacteria on [bilirubin](#), which is the end product of the breakdown of hemoglobin (red blood cells). The odour of feces is caused by the chemicals [indole](#), skatole, [hydrogen sulfide](#), and mercaptans, which are produced by bacterial action.

Ref 14

Bowel Transit Time | Michigan Medicine

Bowel Transit Time

Test Overview

A bowel transit time test measures how long it takes for food to travel through the [digestive tract](#) ([/health-library/hw371116#hw371116-sec](#)). After you chew and swallow your food, it moves into your stomach, where it is mixed with acid and digestive [enzymes](#) ([/health-library/ste122090#ste122090-sec](#)). After your food leaves your stomach, it is squeezed through your small intestine, where nutrients are absorbed for use by your body. The food then goes into your large intestine (colon) where water is absorbed. Whatever hasn't been digested and absorbed by your intestines combines with bacteria and other waste products and becomes stool (feces). Stool is expelled from your body through your anus. The time it takes for food to travel from your mouth through your digestive tract to your anus is your bowel transit time. Sometimes, just the time it takes for food to travel through the colon is measured. This is called the colonic transit time.

Bowel transit time depends on what types of food you eat and how much you drink. For example, people who eat lots of fruits, vegetables, and whole grains tend to have shorter transit times than people who eat mostly sugars and starches. Because different people have different transit times, experts disagree about how useful this test is. Some doctors do not recommend bowel transit time testing.

Ref 15

Wednesday, June 20, 2012
DIGESTION TIME OF VARIOUS FOODS IN THE STOMACH
DIGESTION TIME OF VARIOUS FOODS (approx. time spent in stomach before emptying).
<p>Water when stomach is empty, leaves immediately and goes into intestines.</p> <p>Juices Fruit vegetables, vegetable broth - 15 to 20 minutes.</p> <p>Semi-liquid (blended salad, vegetables or fruits) - 20 to 30 min.</p> <p>Fruits Watermelon - 20 min. digestion time. Other melons - Canteloupe, Cranshaw, Honeydew etc. - 30 min. Oranges, grapefruit, grapes - 30 min. Apples, pears, peaches, cherries etc. - digest in 40 min.</p>
<p>Vegetables Raw tossed salad vegetables - tomato, lettuces, cucumber, celery, red or green pepper, other succulent vegetables - 30 to 40 min. digestion - Steamed or cooked vegetables Leafy vegetables - escarole, spinach, kale, collards etc. - 40 min. - Zucchini, broccoli, cauliflower, string beans, yellow squash, corn on cob - all 45 min. digestion time Root vegetables - carrots, beets, parsnips, turnips etc. - 50 min.</p>
<p>Semi-Concentrated Carbohydrates - Starches Jerusalem artichokes & leafy, acorn & butternut squashes, corn, potatoes, sweet potatoes, yam, chestnuts - all 60 min. digestion.</p> <p>Concentrated Carbohydrates - Grains Brown rice, millet, buckwheat, cornmeal, oats (first 3 vegetables best) - 90 min.</p> <p>Legumes & Beans - (Concentrated Carbohydrate & Protein) Lentils, limas, chick peas, peas, pigeon peas, kidney beans, etc. - 90 min. digestion time soy beans - 120 min. digestion time</p> <p>Seeds & Nuts Seeds - Sunflower, pumpkin, pepita, sesame - Digestive time approx. 2 hours. Nuts - Almonds, filberts, peanuts (raw), cashews, brazil, walnuts, pecans etc. - 2 1/2 to 3 hours to digest.</p>
<p>Dairy and dairy products Skim milk, cottage or low fat pot cheese or ricotta - approx. 90 min. digestion time whole milk cottage cheese - 120 min. digestion whole milk hard cheese - 4 to 5 hours digestion time</p> <p>Animal proteins Egg yolk - 30 min. digestion time Whole egg - 45 min. Fish - cod, scrod, flounder, sole seafood - 30 min. digestion time Fish - salmon, salmon trout, herring, (more fatty fish) - 45 min. to 60 digestion time Chicken - 1 1/2 to 2 hours digestion time (without skin) Turkey - 2 to 2 1/4 hours digestion time (without skin) Beef, lamb - 3 to 4 hours digestion time Pork - 4 1/2 to 5 hours digestion time</p>

Introducing solids

Reviewed by the [BabyCenter Medical Advisory Board](#)
Last updated: December 2015

When should I introduce solid food to my baby?

You can introduce solids any time between 4 and 6 months if your baby is ready. Until then, breast milk or formula provides all the calories and nourishment your baby needs and can handle. His digestive system simply isn't ready for solids until he nears his half-birthday.

The [American Academy of Pediatrics](#) recommends that babies be breastfed exclusively for at least six months — though parents will attest that some babies are eager and ready to eat solids earlier.

For most infants, you can start with any pureed solid food. While it's traditional to start your baby on solids with a single-grain cereal, there's no medical evidence to show that introducing solid foods in a particular order will benefit your baby. Good foods to start with include pureed sweet potatoes, squash, applesauce, bananas, peaches, and pears.

Don't be surprised if your baby's stools change color and odor when you add solids to his diet. If your baby has been exclusively breastfed up to this point, you'll probably notice a strong odor to his formerly sweet-smelling stools as soon as he starts eating even tiny amounts of solids.

Refs 23, 38

A new parent's guide to baby poop | BabyCenter



babycenter.

Baby poop guide

By The BabyCenter Editorial Team
Reviewed by the [BabyCenter Medical Advisory Board](#)
Updated August 2019

5-SECOND SUMMARY

- Normal baby poop can have a lot of different shades and consistencies.
- Your baby will have his first poop (a greenish-black, tarry, sticky substance called meconium) about 24 hours after birth.
- If your baby is exclusively breastfed, her poop will be yellow or slightly green and have a mushy or creamy consistency.
- Formula-fed babies have pasty, peanut butter-like poop on the brown color spectrum.
- Green poop is usually completely normal.
- Call the doctor any time your baby starts to poop more or less often than is typical for him, or whenever you see anything unusual in your baby's diaper.

Does breastfed baby poop look different than formula-fed poop?

If your baby is exclusively breastfed, her poop will be yellow or slightly green and have a mushy or creamy consistency. It may be runny enough to resemble diarrhea. Breastfed poop typically looks like Dijon mustard and cottage cheese mixed together, and it may be dotted with little seed-like flecks. Interestingly, most parents find that it doesn't smell half bad.

Ref 23

Baby Poop – Color, Texture and Smell | tommee tippee

Baby Poop when Breastfeeding

After baby has passed all meconium through their system, their poop will start to change from greeny-black to a lighter greeny-black and then on to a yellow. It is often quite bright. The texture will change too, from sticky to grainy, even loose. The biggest surprise is the smell, which is sweeter than most would expect. This is totally normal as long as baby's poop remains soft and passes easily.

Baby Poop when Bottle Feeding

There are some slight differences between bottle fed baby food compared to breast fed baby food. The most obvious difference will be that bottle fed baby poop will most likely be bulkier than breast fed baby poop as it is more difficult for baby to digest formula than breast milk (see our breastfeeding benefits pages for more info). Compared to breast fed baby poop, bottle fed baby poop is also a paler yellow or yellowish brown and stronger smelling.

Baby Poop while Transitioning to Solid Foods

When your baby starts to move on to solid food, you will notice that the different foods they try will have an impact on their poop – especially the color, which will often mirror the color of the food. Baby's poop will also become larger and thicker, more like an adults. You may also notice certain hard to digest foods pass straight through. This will change in time, as baby gets used to different food types. As they do, baby's poop will also become smellier.

Ref 24



Nutrition

Exclusive breastfeeding

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process with important implications for the health of mothers. Review of evidence has shown that, on a population basis, exclusive breastfeeding for 6 months is the optimal way of feeding infants. Thereafter infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond.

Ref 27

ולדעתי אפי' איסוראיש לגמול קודם זמן כ"ד
חדש אס אין מוכרח לזה מ' עיבור או
שאר עיבור כדי לתת כח לתינוק בפרט לע"ע שאנחנו אינו
ממשפחת צריאי' :

American Academy of Pediatrics, 1801 Hinman Avenue, Evanston, Illinois.

PEDIATRICS, April 1958

REPORT

COMMITTEE ON NUTRITION

On the Feeding of Solid Foods to Infants

SOLID FOODS are being introduced into the infant diet at an increasingly early age. Justification for individual practices appears to rest on opinion rather than on demonstrated proof of benefit or of harm. The Committee on Nutrition deems it desirable to discuss some of the issues involved.

HISTORICAL

Until about 1920, solid foods were seldom offered before 1 year of age. To do so was considered harmful by many pediatricians.

The extreme point of view in the routine early introduction of solid foods is represented by a recent report by Sackett⁹ in which the feeding of solid food was begun on the second or third day of life, and on a 6-hour schedule. Cereal, morning and evening, was the first solid food offered. Vegetables were introduced at 10 days of age, strained meats at 14 days and fruits at 17 days. Dropping of the midnight feeding, if possible, was advised at this stage; the infants continuing on three meals a day.

Sanford and Campbell¹³ gave desiccated steak to 102 babies at 1 to 3 weeks of age.

PEDIATRICS Vol. 65 No. 6 June 1980

AMERICAN ACADEMY OF PEDIATRICS

Committee on Nutrition

On the Feeding of Supplemental Foods to Infants

Over the next 50 years recommendations were made that some cereals and strained vegetables and fruits be introduced at about 6 months of age

Infant cereals, which provide additional energy and iron, are a good choice as one of the first supplemental foods to be presented to the infant. Single grain cereals, particularly rice, are usually well-tolerated.

Refs 29, 34, 35

The Journal of Pediatrics

August 1954 Volume 45, Issue 2, Pages 191-199

A STUDY OF EARLY AND LATER INTRODUCTION OF SOLIDS INTO THE INFANT DIET

ROBERT W. DEISHER, M.D., AND SHIRLEY S. GOERS, M.S. IN HOME ECONOMICS
SEATTLE, WASH.

THERE is a marked difference in the practices of introducing solid food into the diets of infants. This has been obvious to all who work in the field of child health and nutrition. Some infants are started on solids one or two weeks after birth and by four to six weeks are deriving a considerable portion of their food requirement from this source. On the other hand, an almost equal number are not receiving the addition of solid foods until approximately 3 months of age, with a slower increase in the amount added.

Ref 32

My one-year-old is exclusively breastfed. Are there other mothers that still exclusively breastfeed at this age? - Quora

My one-year-old is exclusively breastfed. Are there other mothers that still exclusively breastfeed at this age?



Tori Walker, Mom of 4

Answered Aug 30, 2016 · Author has 1.5k answers and 10.1m answer views

Sounds totally normal! My daughter wouldn't do much more than play with food until she was closer to 2. At 1 years old my other 3 would mostly nurse (95%) and sorta eat some solids. 1 is the time to introduce foods (oh they say 6 months, but my pediatrician was fine with them just playing with food before 1). Start slow, offer Cheerios :) Your baby is getting enough nutrition from you, they won't starve. Just keep offering.

Remember the World Health Organization says breastfeeding until at least 2! Mine got more interested in food than boob eventually and weaned themselves between the ages of 3 and 4.



Dr. Faiza Hashmi, worked at Homeopathy

Answered Oct 1, 2014

you should continue it till his 2 years. In homeopathic natural medical system we have dozen of medicines given as per person's symptoms. we can cure it quickly without any side effect, for farther details Dr Faiza Homeo Clinic - The skill to heal. The spirit to care or send me details madisyed87@gmail.com

ספר וזאת הברכה השלם

כולל ליקוטי דינים ובירורים בהלכות ברכות,
בענינים השכיחים בזמננו, לבני אשכנז ולבני ספרד.
מלוקט מדברי הפוסקים, עם הכרעות רבות מגאוני זמננו.

* ונוסף עליו לוח ברכות מפורט ומעודכן *

ונלווה אליו

קונטרס ברכת שהחיינו וברכת הטוב והמטיב
קונטרס ברכת הריח מהרב אליעזר ברס שליט"א
קונטרס על שיעורי הכזית והכביצה מהרב הדר מרגולין שליט"א

מלוקט בעזרה"ת מאתי הצעיר

אלכסנדר אריה בלאמזר הרב שמחה מנרלבונים
מחיס ודיית אב שמח, ושמחת בתוך, הלילה הזה, כלילה זהווא

עורך לשוני
הרב אריה יוליוס

מהדורה חמישית מהודשת - עם השלמות
ירושלים, תש"ס

פרק ה. ברכה ראשונה ואחרונה

לסיכום: לגבי משקה השיעור המחייב ברכה אחרונה הוא רביעית במשך זמן של כדי שתיית רביעית. ולגבי מאכל השיעור הוא כזית בכדי אכילת פרס. בקטע הבא נתייחס למיני מאכלים שספק אם הם בגדר מאכל או משקה.



סימן פא

דין צואת קטן

2) ובומנינו שמצוי שנותנים לתינוקות לשותות דייסות נוזליות העשויות מחמשת מיני דגן, דעת הגרי"ש אלישיב (נקיות וכבוד בתפלה פ"ז סי"ג) שמימי אין צריך להרחיק מצואתם, כיון שאין זו אכילה אלא שתיה. מאידך, דעת הגר"נ קרליץ (שם) שצריך להרחיק מצואתם, אך יש לשער אם הם שותים כוית מזהוג בשעור זמן של שתית רביעית.

סימן עז

שלא לקרות פנגד מי־רגלים

5) ולבטלם על ידי שאר משקים, דעת הגרי"ה קניבסקי (אשי ישראל בסוף הספר תשובה עא) שיתכן שזה מועיל.

6) ובגדר ריח רע, כתב לקמן (סי' עט ס"ק כג) שהוא כל שדרך בני אדם להצטער מאותו הריח.

הלכות קריאת שמע סימן עט

38) שורש מחלוקתם הוא בביאור דברי הירושלמי בברכות (פ"ג ה"ה) שמרחיקים מצואת תרגולים ארבע אמות ובלבד באדומים. וביאורו הרבינו יונה (ברכות כה, א ד"ה ובירושלמי) והראב"ד (פ"ג מהל' קריאת שמע ה"ז) שאם צואת התרגולים היא אדומה, הרי היא מסרחת, חו אף שיטת השו"ע. אכן הרשב"א (ברכות שם ד"ה ירושלמי) והפני משה פירשו שהתרגולים עצמם הם אדומים, ולא שהצואה אדומה, וזו שיטת האחרונים שפירשו שהם תרגולים שקורין "אינדיק".

(א) ונ"ל שנותנין לו דין הגיע לכלל שכיוצא בו יכול לאכול כז"י דגן בכדי שיכול גדול לאכול אכילה פרה ומרחיקין מנולתו וממ"ר וסדמא דלישנא דש"ע והפוסקים משמע אפי' אינו אוכל אלא תשהגיע לכלל שאחר כמוהו אוכל דינו כאוכל :

בעזרת שמו קדוש וברוך

ס ס ר

ק צ ו ר

ש לח ז ע ר ו ד ה ש ל מ

מהרב הגאון מו"ח שלמה נאנצפרד וצללה"ה

בעל המגבר ספר: קטת המוסר, פני שלמה, תורת זבד, לחם ושלמה, אפריון וטמלי שם.

מ ה ד ו ר ת

הרב הגאון מו"ח חיים ישעיה הכהן וצללה"ה

בעל המגבר ספר: ליקוטי שושנים, ליקוטי יקרים, ליקוטי נאליים, יסודות חיים, דרכי חיים, חוכמת חיים על המלח, סוד יסודות ישראל, סוד ברכת וישיבה, יסודות חכמה, דברי תורה, ברכת חיים, וישיבות חיים, סודי חיים, פתחי חיים, סדר תורה, לבושי חיים.

אשר איזן חזקת ותיקן את הספר קיצור שלחן ערוך בהוספות אלה:

א' מסגרת השלחן

הכולל תקנים וחוקות, ביורר ספקי דינים, פני דעת התורנים, וכן הוספות וריבוי דינים ומורו פ"פ, מחרתים ושאר ספרים הקדושים.

ב' לחם הפנים

פרשת פנים ופנים לחידושי דינים, וכו' פוליסים לחידושי דינים נשים ומוספים ראשונים ואחרונים (הרבנים האחרים בלחם הפנים בשנים, ב"י שם אחרים, הם מרביצ' י' שלמה נאנצפרד וצללה"ה).

ג' ציוני

ה מ ק ו ר ו ת

הוסף ציונים ומראי מקומות, מתוך גוף הספר קצור שלחן ערוך לכל דין לפני פירוש הדין, כי למצא מקור הדין במרחב חלקי ש"ס, רמב"ם ושאר פוסקים.

ד' חלוקת למוד הספר לפרשיות השבוע

חילק כל הביל לפי פרשיות השבוע וז"ל המגבר, יש לו ללמוד בספריו וללמוד בהפ"פ סדר שבחור השנה שסביו בתכ"ו, שירץ המעשה אשר יצא וכל יכשל היו באיזון איסור, תחת הסדרן ידועה.

ח ל ק ר א ש ו ז

הוצאת ספרים "אשכול", ירושלים ע"ה.ק

קיצור שלחן ערוך ה דיני נקיון המקום לדבר שבקדושה

מסגרת השלחן

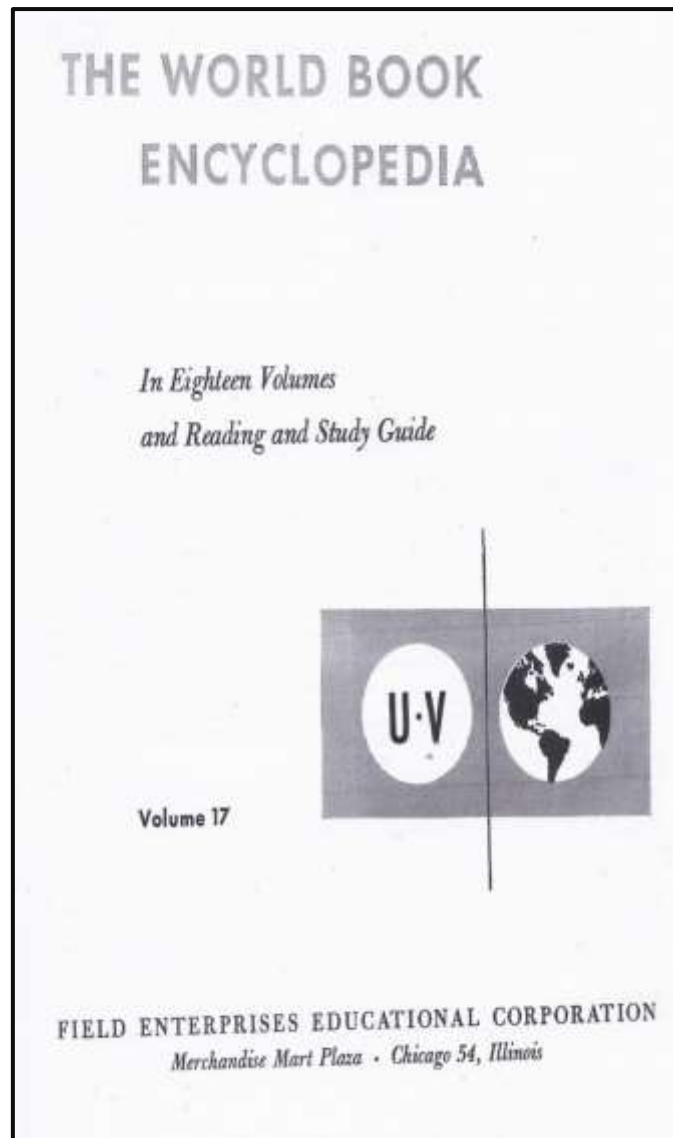
צמדיתנו מחכיכין לקטנים כיסנין (שקורין ליקצר לעקיד) עם חלצ כשהם פחותים סרבה וצני שנה ושועתי וכתה חנשים שהקטנים יכולים לחכול ונכסנין ים כזית חף חס הם עדיין צני רביעית שנה או יותר קלת. ולכן לריך לסרחיק וולוחתו ומוצי' בשנהגוע לכלל רביעית שנה כמנחלר סדין צאו"ח קיון פ"ח ע"ש:



קיצור שלחן ערוך ה

הלכה למשה

לה בן שנה. וצמדינתינו שואכילין לקטנים כסין (סקורין לוקער לעקער
או מיטקאט) עם חלב לרץ להרמיק מלואחו ומו"ר כססגיע לרביעית שנה
(מקנרת) וי"א להחמיר משהם בני עשרה שבעות. ואם אין להם להניק לרץ
להחמיר צנן ד' שבעות (י"ט"ח):



URINE, *YOO rin*, is a liquid waste product of the body, which is separated from the blood by the kidneys. The urine of a healthy person is the color of amber, and slightly acid. It is a little heavier than water, with an average specific gravity of 1.022. Urine is made up of water, urea, uric acid, and inorganic salts. Important among these are the salts of sodium, potassium, ammonia, calcium, and magnesium.

Blood reaches the kidneys through the renal arteries. The waste matter and water removed from this blood passes from the kidneys to the bladder through two small tubes, the *ureters*. The urine is expelled from the bladder to the outside through another tube, the *urethra*.

Br. J. clin. Pharmac. (1989), **27**

Letters to the Editors

Odorous urine in man after asparagus

It has been recognized for many years that after eating asparagus, some humans produce odorous urine. Thus, in the United Kingdom, this characteristic has been found to occur in 46 (40%) out of 115 individuals (Allison & McWhirter, 1956) and in 346 (43%) out of 800 other subjects (Mitchell & Waring, 1987). S-methyl thioacrylate and S-methyl-3 (methylthio) thiopropionate have been postulated to be the odour-causing compounds but the metabolic pathway leading to their formation was not identified (White, 1975).

C. RICHER¹, N. DECKER², J. BELIN³,
J. L. IMBS², J. L. MONTASTRUC³ &
J. F. GIUDICELLI¹

Ref 49

American Journal of Gastroenterology (1998) **93**, 2276–2281

Evaluation of an extremely flatulent patient: Case report and proposed diagnostic and therapeutic approach

Michael D Levitt MD¹, Julie Furne BS¹, M R Aeolus BA¹ and Fabrizio L Suarez MD, PhD¹

Quantitative collections are only possible in highly motivated patients such as the one described in this report. A much simpler measure of flatulence is a count of flatus passages, a technique we have used extensively in research studies designed to assess gas excretion after ingestion of lactose, lactulose, beans, and fiber (^{3, 5, 7}). A study involving 25 healthy subjects ingesting their *ad libitum* diets indicated that gas was passed an average of 10 times/day with an upper limit of normal (mean \pm 2 SD) of 20 times/day (⁸).

Ref 55

Foods That Affect the Odor of Urine

Odorous urine can indicate numerous medical issues or be completely benign, according to The Washington Manual Nephrology Subspecialty Consult by David Windus and Katherine E. Henderson. Urinary tract infections, diabetic ketoacidosis, cystine decomposition and several others may be suggested by telltale smells. However, the simple presence of certain foods in the diet can also have this effect, and in such cases is not typically cause for concern.

Asparagus

Asparagus is well-known to produce especially pungent urine, and there have been multiple studies conducted to investigate this phenomenon. According to articles published by the National Institutes of Health, a study conducted in France in the 1980s found that every one of its 103 test subjects produced odorous urine after consuming five asparagus spears and 250 ml of water. Another study involving 307 subjects in Israel found that only some of the subjects could actually smell the trademark odor in urine samples that were verified to contain the odor-causing compounds, leading researchers to hypothesize that nearly everyone who eats asparagus produces pungent urine, but that only some people can actually smell it.

Onions

The *Urine in Health and Disease* by Arthur Hill Hassall states that onions contain certain compounds that cause odors detectable in urine. This effect is also documented in *Chemical and Microscopical Analysis of the Urine in Health and Disease* by George Bingham Fowler.

Garlic

Hassall notes that consumption of garlic may result in garlicky-smelling urine. According to *Basic Medical Laboratory Techniques* by Barbara H. Estridge, Anna P. Reynolds and Norma J. Walters, this smell can also be similar in quality and intensity to that of asparagus-affected urine.

Fish

Consumption of fish may yield fishy-smelling urine, according to *Pediatric Nephrology and Urology: The Requisites in Pediatrics* by Bernard S. Kaplan and Kevin E. C. Meyers.

Cubeb

The cubeb is a small tropical plant that bears pepper-shaped fruit of the same name, sometimes called cubeb berries. Hassall and Fowler cite cubeb as imparting their natural odors into urine.

Juniper Berries

Hassall also identifies juniper berries, the spicy, aromatic berries traditionally used to flavor gin, as a food that gives urine a scent reminiscent of the plant.

Coffee

Windus and Henderson note that heavy consumption of coffee can result in coffee-scented urine.

Saffron

Hassall identifies saffron, the sweet, yellow spice common to many Indian, Asian and Middle Eastern cuisines, as another food that affects urine odor. Carl Neubauer, Julius Vogel and Edward Stickney Wood's *A Guide to the Qualitative and Quantitative Analysis of the Urine* mentions saffron as a food that can lead to a false medical diagnosis or mask a genuine issue in cases where urine odor is considered as a symptom.

Ref 50

American Journal of Gastroenterology (1998) **93**, 2276–2281

Evaluation of an extremely flatulent patient: Case report and proposed diagnostic and therapeutic approach

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Ref 55

Gut

Volume 54, Issue 7

Intestinal gas dynamics: mechanisms and clinical relevance

F Azpiroz

Excessive and/or bad smelling flatus

These patients pass large volumes of sometimes odoriferous gas per anus. Gas evacuation depends on the volume of gas produced by colonic bacteria during fermentation of unabsorbed food residues arriving into the colon.² Hence the volume of gas depends on diet, and most subjects may experience flatulence after eating foods rich in fermentable residues, such as beans. The amount of gas also depends on the composition of the colonic flora, which is very stable in each subject but exhibits high interindividual variations, so that some subjects are prone to excessive gas production and evacuation.¹ These subjects do not complain of abdominal symptoms unless they have associated irritable bowel syndrome, because healthy subjects propulse and evacuate large intraluminal gas loads without symptoms.

""The amount of gas also depends on the composition of the colonic flora, which is very stable in each subject but exhibits high interindividual variations, so that some subjects are prone to excessive gas production and evacuation""

Refs 56, 61

ScienceDaily[®]

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Science News

from research organiza

Rotten egg gas holds key to healthcare therapies

Date: July 9, 2014

Source: University of Exeter

It may smell of flatulence and have a reputation for being highly toxic, but when used in the right tiny dosage, hydrogen sulfide is now being found to offer potential health benefits in a range of issues, from diabetes to stroke, heart attacks and dementia. A new compound (AP39), designed and made at the University of Exeter, could hold the key to future therapies, by targeting delivery of very small amounts of the substance to the right (or key) places inside cells.

Dr. Mark Wood of Biosciences, at the University of Exeter, added "Although hydrogen sulfide is well known as a pungent, foul-smelling gas in rotten eggs and flatulence, it is naturally produced in the body and could in fact be a healthcare hero with have significant implications for future therapies for a variety of diseases."

Ref 70

Conclusion—Sulphur-containing gases are the major, but not the only, malodorous components of human flatus. The charcoal lined cushion effectively limits the escape of these sulphur-containing gases into the environment.

Nevertheless, virtually all scientific publications concerning flatus, which date back to 1816,³ have focused on the quantitatively important, but non-odoriferous components

(oxygen, nitrogen, carbon dioxide, hydrogen, and methane).¹⁻³ The odour results from trace components that have proved difficult to identify and quantify.

The goals of the present study were to identify and quantify the sulphur-containing gases in human flatus, determine to what extent these gases account for the offensive odour, and evaluate the efficacy of a device that is being marketed as a remedy for excessively noxious flatus.

The sum of the concentrations of the sulphur-containing gases significantly correlated with odour intensity (table 2). Hydrogen sulphide showed the strongest correlation, followed by methanethiol and dimethyl sulphide.

For many years, aromatic breakdown products of amino acids such as indole and skatole were believed to be the primary malodorous compounds in flatus.¹⁻¹² However, Moore *et al*⁶ found that minimal quantities of indole and skatole were released from human faeces, and that these compounds had an odour distinctly different from that of human faeces. They concluded that organic sulphides of bacterial origin, primarily methanethiol, dimethyl disulphide, and dimethyl trisulphide, were the primary malodorous compounds elaborated by faeces.⁶

How do I stop making smells/neutralise digestive system?

I have eaten too many beans and prunes (stupid!!). What can I do to stop making smells as I have work in a few hours?



Xu Beixi, working towards her Doctor of Medicine degree now.

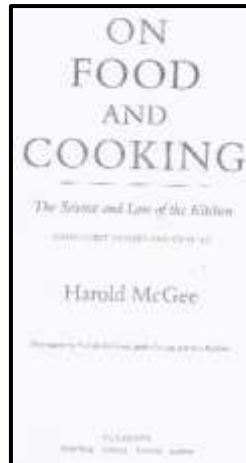
Written Jan 24, 2014 · Upvoted by Charles Bollmann, M.D., University of New Jersey College of Medicine

Anyway, you can physiologically hold your farts in. Of course, avoiding eggs, red meat, cabbage, and any sulphur-containing compounds would help.*

Lastly, please rest assured that we all fart. **8-20 times a day**. 476 to 1491ml. It's normal, so please don't be too caught up in that. :)

*The remaining trace (<1% volume) compounds give flatus its smell. Historically, compounds such as indole, skatole, ammonia and short chain fatty acids were thought to cause the smell of flatus. More recent evidence proves that the major contribution to the smell of flatus comes from a combination of volatile sulphur compounds (VSC).[5] [12] It is known that hydrogen sulphide (H₂S), methyl mercaptan (MM, methanethiol, MT), dimethyl sulphide (DMS), dimethyl disulphide (DMDS) and dimethyl trisulphide (DMTS) are present in flatus. The benzopyrrole volatiles indole and skatole actually have a mothball type smell, and therefore probably do not contribute greatly to the characteristic smell of flatus.

**Normal flatus volume range is around 476 to 1491ml per 24 hours.[5] [7] This variability between individuals is greatly dependent upon diet. Similarly the number of flatus episodes per day is variable, the normal range is given as 8-20 per day.[9]



THE PROBLEM OF LEGUMES AND FLATULENCE

Several chemical constituents of beans are responsible for an uncomfortable, sometimes embarrassing consequence of eating legumes: the generation of gas in the digestive system.

The Cause: Indigestible Carbohydrates

Everyone produces a mixture of gases from their intestine, about a quart a day, thanks to the growth and metabolism of our resident bacteria. Many legumes, especially soy, navy, and lima beans, cause a sudden increase in bacterial activity and gas production a few hours after they're consumed. This is because they contain large amounts of carbohydrates that human digestive enzymes can't convert into absorbable sugars. These carbohydrates therefore leave the upper intestine unchanged and enter the lower reaches, where our resident bacterial population does the job we are unable to do.

One kind of troublesome carbohydrate is the *oligosaccharides*, molecules consisting of three, four, and five sugar molecules linked together in an unusual way. But the latest research suggests that the oligosaccharides are not the primary source of gas. The cell-wall cements generate just as much carbon dioxide and hydrogen as the oligosaccharides—and beans generally contain about twice as much of these carbohydrates as they do oligosaccharides.

Gut, 1991, 32, 665-669

Investigation of normal flatus production in healthy volunteers

J Tomlin, C Lewis, N W Read

To most people flatulence, or the passage of gas through the rectum, is a frequent everyday occurrence that causes no distress or discomfort. Some people, however, attend their doctors complaining of excessive flatulence, often associated with severe pain and bloating. Some of these patients produce large amounts of gas and their symptoms can be relieved by dietary modifications.¹ Others may produce more modest volumes and their discomfort may be related to increased sensitivity to gastrointestinal distension or abnormal transit of gases.²

DIURNAL VARIATION

Flatus production fluctuated widely throughout the day and night. Three subjects seemed to produce the greatest volume in the morning, three in the afternoon, one in the evening, and one during the overnight collection. Large volume collections tended to follow meals; 13 out of a total of 22 collections of over 60 ml/h occurred in the hour after a meal compared with five collections during the hour before ($p < 0.05$).

Flatus was released while the volunteers were asleep, although the production rate during sleep (median 16 ml/h) was significantly lower than the daytime production rate (median 34 ml/h; $p < 0.05$).

The first collections of the morning that were over 30 ml/h contained significantly less fermentation gas than other collections of this size (median 17% and 38% of the total respectively; $p < 0.05$).

The lack of a relation between the number of flatulent episodes and the total flatus volume, or the daytime flatus volume, suggests that the size of single emissions varies among individuals, probably because different people have different sensitivities to gaseous distension of the rectum.¹⁴ The size of individual discharges has been estimated as between 25 and 100 ml.² The rough calculation of the size of flatus emissions in our studies gave a range of volumes from 33 to 125 ml (median 90 ml) per episode, which is similar to these previous estimates.



The Ostomy Files: The Issue of Oral Medications and a Fecal Ostomy

Tuesday, 03/01/05

Issue Number:

Volume 51 - Issue 3 - March, 2005

Gwen B. Turnbull, RN, BS, ET

Patients often are taught several measures to ensure they remain odor-free: 1) take an oral tablet, such as bismuth subgallate, charcoal, or chlorophyllin copper complex; 2) place a deodorizer directly into the pouch; and 3) use a room deodorizer. Bismuth subgallate tablets have been used as oral deodorizers for years — they darken and thicken the stool and have been shown to have side effects with long-term use that cease when the drug is discontinued.² Activated charcoal also has been used orally to reduce fecal odor — it can darken the stool and cause constipation. Researchers found no evidence of a reduction in odor with oral doses of charcoal for patients with a colostomy.³ The use of chlorophyllin has been proven to control body and fecal odor and is safe in oral doses up to 100 mg three times a day.² It is not without side effects, however; it can turn the stool green and cause diarrhea.

Many over-the-counter medications, such as Mylanta Gas® (Johnson & Johnson — Merck Consumer Pharmaceuticals Co., Ft. Washington, Pa.) and Phazyme® (Glaxo SmithKline, Philadelphia, Pa.), are effective in reducing flatus. Dietary supplements, such as Beano® (Glaxo SmithKline, Philadelphia, Pa.), are also quite effective in reducing gas related to the breakdown of complex sugars in gas-causing foods⁴ and are available as tablets or drops.

Refs 63, 64

American Family Physician

Effective Management of Flatulence

JUSTIN BAILEY, MD, David Grant Medical Center, Travis Air Force Base, California

NAKIA J. CARTER, MSIS, East Tennessee State University, Quillen College of Medicine, Johnson City, Tennessee

Clinical Commentary by JON O. NEHER, MD, Valley Medical Center, Renton, Washington

Am Fam Physician. 2009 Jun 15;79(12):1098-1100.

Evidence Summary

Flatus represents two distinct problems: (1) volume of flatus resulting in bloating and discomfort; and (2) odor possibly disturbing persons around the patient. Volume is caused by hydrogen, nitrogen, and methane, whereas odor is a result of sulfur gases in the flatus. Because flatus represents two different perceived problems, distinct treatments for either volume or odor may be required.

BISMUTH SUBSALICYLATE

Bismuth subsalicylate (524 mg orally four times daily) has been shown to bind more than 95 percent of sulfide gases in the gut. Concern for salicylate toxicity inhibits its use as a chronic treatment; however, episodic use is safe and could be used strategically to prevent social unease.⁸

Ref 64



שאלות ותשובות קונטרס אודות מהרי"ל דיסקין

סימן ה'.

ד) צדיק עין (נאום סי' פ"ט), אם יש שלשה ומחלים
לא רית רט, אולי הותר לבולם ללמוד, לכל
אחד בטיל ריחא ברובא דלאו ידיה, עי' סי' ק"ח ביו"ד, ועי'
סוף פרק אלו דברים מקטרוח לכשפים, משמע קלח, אף
שבאמת מקטרוח בטל הרית.

Ref 69

Quora

Why do human feces smell so bad compared to other mammals' feces?

It is mostly diet. Animals that eat leaves and grass, like goats or sheep, have poop that smells like grass and dirt, which isn't really very bad. Other animals with a similar diet to humans, like pigs, have poop that smells just as bad as human poop. Pig farms smell unbelievably terrible.

Written 28 Dec 2014

Ref 73

Refs 74, 85, 86, 100

<faith.burden@thedonkeysanctuary.org.uk>

Wed, Feb 24, 2016 at 2:59 PM

1/. Soft faeces of a donkey may smell more for a number of reasons, the main reasons are likely to be the increase in dissipation of molecules associated with 'smell' when faeces are soft - much of the olfactory system relies of vapours and the transference of smell through liquid droplets which would obviously occur more readily when the faeces is more liquid. There may also be issues relating to why the faeces are soft, most donkey droppings are relatively hard in texture, the donkey is adapted to desert conditions and is extremely good at water partitioning and removal of precious water during digestion leading to a normal firm textured dung. Soft and smelly dung can often indicate a digestive upset which may be caused by an infection or ingestion of poor quality or unsuitable feed. Finally soft, smelly dung can be an indicator of stress in donkeys, stress appears to increase digestive transit time so that feed is not fully digested and water is not withdrawn from the dung before passing.

2/. Coming in from a journey would indicate that the donkey has been working or exercising, perhaps for a long period of time? Again donkeys are extremely efficient at preserving water and will concentrate their urine to prevent loss of valuable water. When urine becomes concentrated the smell does indeed increase (as does the darkness and opacity of the urine). This may be an indication that the animal is dehydrated perhaps?

Ref 77

David (FAOMM) <David.Hadrill@fao.org>

Wed, Feb 24, 2016 at 10:00 AM

- Soft faeces smell more strongly because some associated odours are water soluble and will evaporate more from wetter faeces;
- A donkey that has been on a long journey may be dehydrated. A dehydrated animal has more concentrated urine. Where odiferous compounds are concentrated, the smell will be stronger.
- If a long journey has resulted in metabolism of biochemical products of labour, these may be excreted in faeces and urine.

Ref 77



47

פרק ב : עוף

תרנגול הודו הנו עוף גדול. דומה, במידה מסויימת, לתרנגול, לטווס, שמוצאו הוא מאמריקה. לפני גלוי אמריקה לא נמצא על פני חצי כדור המזרחי. לאור זאת, אפשר לדון כאן על הנושא „חידוש המסורה”⁸⁴.

Ref 80

From The Pages Of
Birds^{USA} Why Doesn't Bird Poop Smell?
 "Bird poop usually does not smell like mammal excrement for several reasons. First, the avian diet generally consists of less meat and more fruits and veggies," said Karen Zielezienski, DVM, of the Plantation Animal Hospital in Plantation, Florida. "Secondly, meat protein is rich in sulfides, which is why mammal poop is usually more smelly. In addition, many mammals, like dogs and cats, have anal glands near their anus, the contents of which emit a foul odor."

Ref 81

Bird Poop 101

How to Monitor Your Bird's Droppings



By Alyson Kalhagen
Pet Birds Expert

• Odors

In general, your bird's droppings should produce little to no odor. Poop that seems overly smelly can be indicative of infection, intestinal problems, or other types of illness. This is not to say that you should actually get down and sniff your bird's droppings -- that can actually be harmful to your *own* health. Rather, pay attention when your bird uses the bathroom, and see if there seems to be any noticeable scent wafting around the cage. If your nose detects something that's just not "right" about the odor, it's probably a good idea to contact your bird's vet for an evaluation.

Ref 82

The Pet Bird Health Handbook

**Carolina
Veterinary
Specialists**

Vegetables, Grains, and Fruits

In general, vegetables contain more nutrients than fruits. The dark green leafy vegetables (kale, spinach, collards, broccoli) and red-orange vegetables (sweet potatoes, carrots) are very high in beta carotene (the precursor to vitamin A). Many green leafy vegetables are a rich source of calcium. Whole grains are an excellent dietary choice as well. Commercial cereals are usually vitamin and mineral fortified.



Ref 83

The San Diego Union-Tribune

Chicken manure stink could be costly

By J. HARRY JONES

APRIL 14, 2014
6:32 PM

ESCONDIDO — It looks like the manure dumped on a dead North County golf course has officially hit the fan.

The citations were sent to Stuck in the Rough LLC and its owner, Michael Schlesinger, as well as to the owner of an egg ranch that supplied the manure, said Bob Kard, the director of the county's Air Pollution Control District.

Kard said inspectors were in the country club area all weekend and noted the continuing stench of the manure, which was deposited on several of the property's fairways over the past two weeks.

An attorney for Stuck in the Rough said Monday the company did nothing wrong when it put "a legal product that is used nationally" on a small section of the course. Once complaints surfaced, the company acted quickly to address the problem, said the attorney, Ronald Richards, in an email to U-T San Diego.

He said Stuck in the Rough hired an eight-man cleaning service to remove the product and abate the problem.

Kard said the manure odor still registered a Level 3 or 4 Monday on the district's smell scale, down from a Level 5 — the worst rating — recorded by a county inspector at the site last week.

Neighbors have said the intensity of the odor varies, depending on several factors including wind conditions and proximity to the course.

Kard said the pollution district fines could be increased if it's determined that the manure was put on the course for the sole purpose of creating a stench.

"To do something in a negligent fashion, it could be \$100,000 per day; if you do something in a willful and intentional fashion it can be \$125,000 per day, or if it's a (large) corporation, \$500,000 per day," Kard said. "Obviously for a nuisance like this we're not going to see penalties like that, but \$10,000 a day is not unreasonable ... and then we negotiate to come up with some amicable number that we think provides deterrence, which is what the penalties are all about."

שאל את הרב

דף הבית » שאל את הרב - שאלות ותשובות ביהדות ובהלכה » צואת כלבים

צואת כלבים

מתוך: יום יום « לימוד תורה

לכבוד הרב

פורסם בכ"ב בטבת התשע"א

סליחה מראש על הטירחה, כתבת לי שלא ללמוד בדרך מכין שיש צואה של כלבים אפילו שאין ריח רע שאין דינה כצואת אדם, מן כותב בסימן עט סעיף ד שאין צריך להרחיק מהם אם אין להם ריח רע ?

התשובה:

מאת: הרב אברהם יוסף

הצדק איתך על פי מה שהיה בזמנם, ובימינו שהכלבים אוכלים מאכל ביתי על פי החוב יש בהם ריח, ויש לדון לגופו של ענין. לכן כתבתי שמותר ללמוד ולקרוא בדרך וכשיגיע קרוב יהרהר ולא יוציא בפיו.

Ref 103

Marten

MAMMAL

WRITTEN BY: The Editors of Encyclopaedia Britannica

See Article History

Alternative Title: Martes

Marten, any of several weasel-like carnivores of the genus *Martes* (family Mustelidae), found in Canada and parts of the United States and in the Old World from Europe to the Malay region. Differing in size and coloration according to species, they have lithe slender bodies, short legs, rounded ears, bushy tails, and soft thick coats that are valuable in the fur trade. Martens are forest-dwelling and usually solitary. They climb easily and feed rapaciously on animals, fruit, and carrion. A litter contains one to five young; the gestation period, especially in northern areas, may last 290 days or more because of a delay before implantation of the fertilized egg in the wall of the uterus.

Ref 88

ACTA THERIOLOGICA
Vol. 21, 36: 527—534, 1976

Composition of the Food of Martens

Jacek GOSZCZYŃSKI

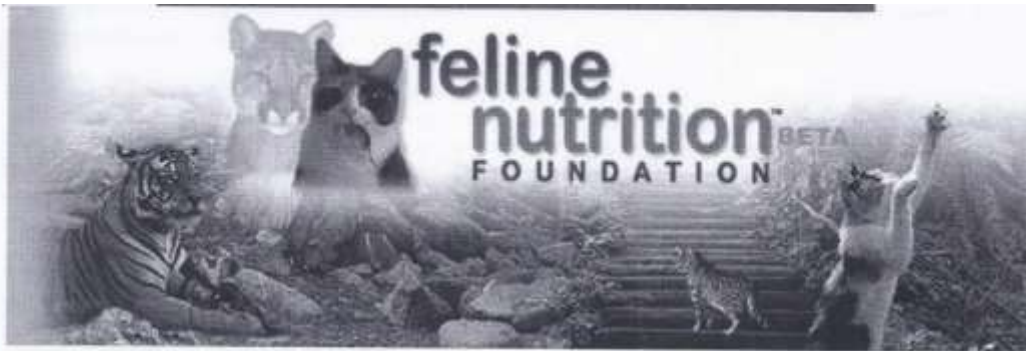
The diet of martens (*Martes* sp.) was examined by means of analysis of 635 excrements. Fruits (42.7%), small rodents (32.4%), birds (15.7%), *Lagomorpha* (5.3%) and insects form the main components of food biomass. During the summer-autumn period the diet of martens consists chiefly of plant food, and in winter and spring animal food. The role of martens in reduction of voles, hares and game birds is discussed.

ACTA THERIOLOGICA
Vol. 31, 36: 491—506, 1986

Diet of Foxes and Martens in Central Poland

Jacek GOSZCZYŃSKI

The diet of foxes and martens was examined on the basis of the composition of their faeces (1139 and 813 portions, respectively) collected from the same area in central Poland. Although the mean density of the common vole was low in the study area, an increase in the number of these rodents was followed by a functional response of both foxes and martens. This response, however, was weaker than in the areas with a high abundance of voles. The proportion of voles in the diet was more variable in the study area than in the areas of their high densities. In the diet of foxes, three groups of food items were found in similar proportions (about 26—33% by weight): small mammals, birds, and hares. In foxes a compensatory response was found between the consumption of small mammals, on the one hand, and birds and hares, on the other. Martens consumed the same three groups of prey; but also fruits were an important component of their diet (37%). Except for small mammals preyed upon by martens throughout the year, the other food items (hares, birds, insects, and fruits) were consumed from time to time. Martens showed a compensatory response between preying on small mammals and eating fruits in summer and autumn months, and also between preying upon small mammals and birds in winter and spring months. The diet of foxes was characterized by a small annual variation and a high seasonal variation in the study area as compared with areas supporting high vole densities.



The Benefits of a Raw Meat Diet for Your Cat

Last Updated on Sunday, October 04, 2015 07:22 PM

Published on Monday, February 08, 2010 01:14 PM

Written by Margaret Gates

Cats are predators. They evolved eating a prey based diet, and more importantly, eating that diet raw. Cooking degrades nutrients in meat, causing losses of vitamins, minerals and amino acids.¹ Meat used in highly processed pet food is cooked at high temperatures and the nutrients lost must then be added back in. This supplementation is not exact, and there are nutrient losses which aren't always replaced.

Cats in the wild eat often eat the entire prey animal if it is small and will eat nearly everything except the intestines of a larger prey animal. This includes the bones of their prey, as raw bone is highly digestible and is their primary source of calcium. Cooking bone not only reduces the nutrients available but also makes the bone brittle and dangerous to ingest.²

Providing your cats with a diet that is modeled on what they would eat in the wild has many benefits, for you and your cat.

Improved Digestion

Cats are obligate carnivores, they must eat meat. Their digestive systems are adapted specifically for a meat based diet. A cat's digestive tract is short and acidic, and processes a species-appropriate raw diet highly efficiently in about 12 hours. This gives very little time for bacteria to proliferate, so cats are naturally resistant to food poisoning.³

Cats have no requirement for carbohydrates and limited ability to digest them. For cats, a raw meat diet is more digestible than a diet of plant based foods.⁴ Because they evolved

eating a diet with almost no carbohydrates, they have only one enzyme system capable of handling them. This is quite different from humans and dogs who have multiple enzyme systems that digest carbohydrates.⁵

Greatly Reduced Stool Odor and Volume

When cats are fed a proper diet, their bodies use most of their food, so there is much less stool volume. Stool production can be cut in half. They also eliminate less often, sometimes once a day or even less. Their stools are often dry, a little crumbly and hardly smell at all. In the wild, this makes sense for a predator that is small enough to also have to worry about being preyed upon itself. It wouldn't want to be leaving too many smelly advertisements of its presence.

When cats are fed a diet with a large amount of carbohydrates, their systems will struggle to digest the excess carbs. Since much of what they eat isn't being efficiently processed by their systems, the amount of waste is much greater than it should be. Those big, gloppy, smelly puddles in the litter box are not normal.

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Why do My Cat's Stools Smell so Bad?

By [Dr. Mike Paul, DVM](#)

[Stool](#), [Cats](#), [Litter Box](#), [Bacteria](#)

Posted **August 27, 2014** in [Cat Diseases & Conditions A-Z](#)

While stools do not normally have a pleasant smell, sometimes stools or feces can smell extremely strong and putrid. The cause for foul smelling stools in cats or humans can be very similar. It can be the food eaten, the bacteria in the colon¹, and on occasion serious health problems. Additionally diarrhea and the presence of excess gas can cause bad odors.

Ref 94

the nest

DOG FOOD AND SUPPLIES

Dog Food That Helps With Smelly Stool

By *Susan Leisure*

The Scoop on Poop

Your dog's stool tells the story of his digestive tract. Firm stool with a light smell and brown color is the norm for healthy dogs. Harsh-smelling stool can indicate a health issue. The smell is caused by the sulphur produced when the bacteria are breaking down food. The harder the bacteria have to work as a result of a health issue, the more sulphur is produced and the more the stool will smell. Possible causes for smelly stool include parasites, infections in the digestive tract, irritable bowel syndrome and malabsorption syndrome. Before trying to control his smelly stool with food, make sure he doesn't have any health problems that are causing foul odors. If you think your dog might have a health issue, have your veterinarian do a standard fecal exam to rule out common problems.

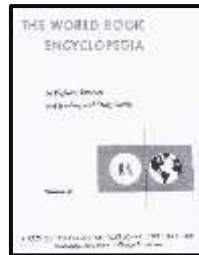
Junk In, Junk Out

The longer food stays in your dog's digestive tract, the more sulphur builds up, resulting in smellier stool. Fillers, like meat byproducts and grains, are very hard for dogs to digest and often stay in your dog up to 48 hours. Undigestible ingredients, like cellulose, use up a ton of digestive energy, with nothing but smells to show for it. If you feed your dog junk food, then the byproducts of digestion that cause smelly stool will be abundant. Choose a grain-free food with no corn, wheat, soy or byproducts. Look for foods with high protein, moderate fats and low carbohydrates to make it easier for your dog to digest his food.

Raw Food = More Pleasant Smells

The best way to stop the smelly stool is to feed a raw diet. Dogs can digest raw meat in four to five hours, compared to the two days it may take to digest commercial foods. The meat is also easier to digest, which means a lot less gas is produced in the process. Dogs fed a 100 percent raw diet will have small, firm stool with only a faint odor (and sometimes no smell at all).

Refs 94, 104



LEATHER. Man has known how to dress the skins of animals to preserve them and make them soft and flexible for thousands of years.

The early cave men soon discovered that the skins of the animals they killed could be preserved and made into foot coverings and clothing.

The Egyptians made leather so well that specimens which are more than 3,000 years old have been found in a state of almost perfect preservation. The Babylonians also made leather. The Hebrews discovered a tanning process that is still in use.

The Indians of North America made leather from deerskin by a process which other early peoples may have used. The Indians piled their skins in packs so that the tissue surrounding the hair rotted off. They scraped the flesh from the inner side of the skin by hand. They tanned this leather by pounding oil and brains of animals into the skin. They completed their deerskin leather by smoking it. The leather thus made was soft and remarkably good. It was called buckskin.

All animals hides and skins can be tanned. Cattle hides are by far the most important raw material for tanners. But the skins of calves, sheep, and goats are also tanned on a large scale. Other types of leather are provided by the skins of snakes and other reptiles such as the alligator and the lizard. The skins of sharks are tanned, and so are those of the ostrich.

Today, leather is chiefly important for its use in shoes. About 80 per cent of the total production of the leather industry of the United States is used in the shoe trade. But leather is exceedingly important for its other uses, such as industrial belting for power transmission, harnesses and saddles, gloves, jackets and other clothing, luggage, and upholstery.

The United States is the leading producer of leather among the nations. The value of the leather produced in this country is about \$500,000,000 a year. The states leading in leather manufacture are Massachusetts, New York, Pennsylvania, and Wisconsin.

No set rule exists by which hides and skins must be processed into leather. A process that may answer satisfactorily in one plant may prove entirely out of line in another. One tanner may agree that a certain procedure is essential, and another may look upon the same procedure as unsuited for his purpose. In both cases a very desirable product may be manufactured. Typical processes are described in this article.

Preparing Raw Leather

Soaking. The skins and hides are received at the tannery in a "cured" form, which means that they have been treated to prevent their rotting before they reach the tannery. The hides and skins are immediately soaked in water to soften them and to remove any substance which has been used as a curing or preserving agent. The soaking period varies from two to forty-eight hours, depending upon the condition of the hide. After the soaking operation, the hide is washed with water to remove any of the curing agent, dirt, or other foreign matter which may stick to it. This operation is performed in vats called *pits*, or *paddle vats*.

Fleshing. The flesh is removed from the inner side of the skin by machines equipped with a rubber roller and a shaft to which spiral knives are attached. These knives cut the flesh and tissue from the inner side of the skin, leaving a clean and uniform surface.

Unhairing. After fleshing, the skin is transferred to a department called the "beam house," where it is treated to remove the hair. The hides are soaked in a vat which contains a solution of lime, a large amount of undissolved lime, and a small amount of sodium sulfide. The hides are left in the lime solution from three to seven days, and are moved about, or *milled* each day. At the end of this period the hair is very easily removed by a machine which scrapes off the hair with a series of blunt blades.

The action of the lime swells the hide considerably. The flesh side of the hide becomes rough, because of the swelling particles of tissue which were not removed in the first fleshing operation. It is necessary, therefore, to "reflesh" after the hair is removed. After the second fleshing operation, the hides and skins are *scudded*. This operation removes the last bit of skin and hair roots which were not removed by the unhairing machine. The scudding is usually performed by a hand worker called a *beamster* with a moon-shaped knife on a table which forms an arc and is set at an angle of about 45°. One end of this table rests on the floor, and the other end is waist high to the beamster. A machine is also used for this operation in some leather-processing plants.

Bating. The next operation is that of removing the lime from the skins and hides. This is partly done by washing with cold water. After washing, the skins and hides are placed into a paddle vat filled with warm water, to which is added a "bating" material. The bating, which removes nearly all the lime, usually consists of an enzyme and a lime neutralizing agent such as ammonium sulfate or chloride. In the past, the enzyme was provided by dung from dogs, chickens, or pigeons. Now, the enzyme for most bating is provided by finely divided pancreas.

The bating operation not only removes lime, but the action of the enzyme also changes the physical condition of the hide or skin, making it soft and giving the grain a silky feel. The way in which this is done will be reflected in the grain of the finished leather. The bating operation may require a period of thirty minutes to four hours. When the operation is completed, the hides are washed with cold water, removed from the vats, and piled down flat to drain.

At this stage of leather manufacture, the hides enter into either vegetable-tanning or mineral-tanning classifications, depending upon the use to which the leather will be put.

Tanning in the Seventeenth Century

To stop the action of the acetic solution, alkaline dressings were then applied. Ingredients included soft soap, boiled meal and dog, pig or fowl dung.

Ref 98

NEW WORLD ENCYCLOPEDIA™

Tanning (leather)

Ancient methods of tanning

In ancient history, tanning was considered a noxious or "odiferous trade" and relegated to the outskirts of the town, amongst the poor. Indeed, tanning by ancient methods is so foul-smelling that tanneries are still isolated from those towns today where the old methods are used.

Ref 99