

ENGLISH READING IN DYEING AND FINISHING

染整专业英语读本

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俞寿椿 凌志钧 编



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English Reading

in

Dyeing and Finishing

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纺织工业出版社

内 容 简 介

本书包括纺织纤维、预处理、染色、印花、整理、纺织助剂、纺织试验、废水处理等方面的染整专业英语短文30篇。每一篇英语课文后面，列有词汇、必要的语法注释，以及参考汉语译文。书末附有英汉色彩名称词汇表。

本书供掌握英语基本语法和一定数量词汇的染整科技人员阅读，也可供高、中等院校学生学习。

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俞寿椿 凌志钧 编

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前 言

纺织品的染整加工是纺织工业至为重要的一个方面。目前，世界的染整技术发展很快，取国外所长，及时获得信息，广泛交流，以资借鉴和提高，实为刻不容缓。在这方面，学习专业英语为必要的手段和桥梁。

本书是专为已经学习过英语基本语法，并掌握一定数量词汇的读者编写的；是为了满足读者学习和巩固专业英语的需要，培养读者实际使用专业英语的能力，系一本具有系统性的染整专业英语读本。译文力求确切通顺。

本书的编写工作曾得到不少专业老师和工程技术人员的支持和帮助，华东纺织工学院外语教研室主任周锦安老师对全书进行了校阅，在此一并表示衷心的感谢。

由于编者学识浅薄，水平有限，缺点和错误在所难免，恳请读者批评指正。

编者

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PART ONE, TEXTILE FIBERS

1. Natural Fibers

Fiber is the basic unit of fabric. The textile fibers may be divided into two major groups, namely, (a) natural fibers and (b) man-made fibers.

The chief natural fibers now in use are cotton, linen, wool and silk. They vary considerably as regards their properties and their production.

Cotton

Cotton is the most important and widely used vegetable fiber. It is obtained from the cotton plant which grows in warm moist climates and in most parts of the world. In 1980 the leading producing countries are America, Russia, China, India and Pakistan. Cotton fibers are composed largely of cellulose. Besides cellulose, raw cotton contains a number of other substances, notably waxes, pectic products and mineral substances. These are quite small in amount, say, ① not more than 4 per cent together. They are referred to as impurities by the manufacturer of cotton goods. Generally these are objectionable effects and would make② it difficult to colour

and finish cotton fabrics satisfactorily, so it is always a first step in the art of dyeing and finishing to purify the cotton as completely as possible.

Cotton is excellent for a multitude of purposes and has virtually universal consumer acceptance. It is used for apparel fabrics, for household or domestic goods, and for industrial applications. Its ability to accept colour and finishes, combined with its comfort, makes it a pleasant choice for the fashion-minded consumer. Cotton is also extensively used in blends with man-made fibers to achieve new combinations of properties that are not available in the fibers separately.

Cotton has some disadvantages, too. It creases and wrinkles easily. It may be weakened by mildew and mold unless treated to resist them. It is readily attacked by acid reagents or substances, and it is slowly affected by sunlight, causing yellowing and fiber degradation.

Linen

All vegetable fibers other than cotton—the only unicellular vegetable fiber—are multicellular. The best known and most abundantly used multicellular fiber is linen. There are several others such as jute, hemp and ramie.

Linen materials are made from fibers found in flax. Linen fibers resemble cotton in so far as they consist of cellulose but have a lower cellulose content. On an ave-

...rage the linen fibers contain only about 75 per cent of pure cellulose, the remaining matter being a gummy pectic substance. The surface of each fiber is smooth and this helps to give linen materials their characteristic high lustre. In many of its chemical properties linen closely resembles cotton. Thus, it is resistant to alkalies and is easily deteriorated by acids. Linen is mainly used in the manufacture of sail cloth, tent fabric, sewing threads, fishing lines, table-cloth, and sheets.

Wool

Wool is the animal fiber of outstanding importance. It is obtained by shearing the fibrous covering of sheep and is produced in almost all parts of the world. When wool is shorn from a living sheep it is called fleece or clip wool, but when removed from the carcass of a dead animal it is known as skin or pulled wool and is frequently inferior in quality to fleece wool.

Chemically wool consists of a complex protein called "keratin", a substance which is composed of carbon, hydrogen, oxygen, nitrogen and sulphur. Keratin differs from cellulose in containing nitrogen and sulphur, and it is the presence of these two additional elements in the wool molecule which gives wool fibers properties profoundly different from those of the vegetable fibers. Wool fiber has a density of 1.32, which makes it slightly lighter than cotton. Wool and other hair fibers have an elastic

recovery of 99% from 2% and 60% from 35% extension, respectively.③ This makes the wool fibers highly resilient. In other words, wool fibers have a tendency to return completely to their original shape after small deformations, which is a great importance, since it results in making a yarn fluffy, thereby trapping air in the interstices between the fibers. This trapping of air helps in forming an insulating layer, thus imparting the characteristic of warmth. It is obvious from the considerations of the physical characteristics of wool fiber that it occupies a prominent position in the world textile market.

Wool has several disadvantages; it is very sensitive to alkaline substances; it is readily attacked by moths and carpet beetles unless treated to resist them; ④ it is difficult to bleach; and it felts easily.

Silk

Silk is the material extruded from glands in the body of the silkworm in spinning its cocoon or web. It is the only natural fiber that occurs in the form of a fine continuous filament. To reclaim silk filaments, the cocoons are soaked in hot water, which softens the sericin gum. Filaments from several cocoons are picked up, assembled, passed through a guide, and made into skeins by the process of reeling. This yarn can then be processed into fabrics before or after degumming.

Silk is warm and pleasant to the touch and is generally considered comfortable to wear. It is readily dyeable with a variety of dyes and has an affinity for metallic salts.

Silk is essentially used in luxury goods. It has been able to withstand competition from synthetic fibers in many high-quality textile applications because of its excellent dyeing characteristics, high moisture and light absorbency, and heat-preserving property.

Words and Expressions

| | | |
|-----------------|----|-----------|
| 1. fiber, fibre | n. | 纤维 |
| textile fiber | | 纺织纤维 |
| natural fiber | | 天然纤维 |
| man-made fiber | | 人造(化学)纤维 |
| synthetic fiber | | 合成纤维 |
| vegetable fiber | | 植物纤维 |
| animal fiber | | 动物纤维 |
| 2. cotton | n. | 棉花 |
| raw cotton | | 原棉 |
| cotton goods | | 棉织品, 棉制品 |
| 3. linen | n. | 亚麻布, 亚麻纱线 |
| 4. flax | n. | 亚麻 |
| 5. jute | n. | 黄麻 |
| 6. hemp | n. | 大麻 |
| 7. ramie | n. | 苧麻 |
| 8. wool | n. | 羊毛 |
| 9. silk | n. | 蚕丝 |

| | |
|-----------------------|--------------|
| 10. as regards | 关于 |
| 11. property n. | 性质, 特性 |
| 12. be composed of | 由……组成 |
| 13. cellulose n. | 纤维素 |
| 14. a number of | 若干, 许多 |
| 15. pectic a. | 果胶的 |
| pectic products | 果胶物 |
| 16. mineral a. | 矿物的, (化) 无机的 |
| mineral substances | 矿物质 |
| 17. be referred to as | 被称为…… |
| 18. impurity n. | 杂质 |
| 19. colour n. | 颜色, 染料 |
| v. | 染色 |
| 20. finish v. | 整理 |
| finishing n. | 整理 (工艺) |
| 21. art n. | 艺术, 工艺 |
| 22. dye n. | 染料 |
| v. | 染色 |
| dyeing n. | 染色 (工艺) |
| 23. as...as possible | 尽可能… |
| 24. a multitude of | 大批 |
| 25. purpose n. | 目的, 用途 |
| 26. apparel n. | 服装 (统称) |
| 27. fabric n. | 织物 |
| 28. fashion-minded a. | 崇尚时式的 |
| 29. blends n. | 混纺纱 |
| 30. reagent n. | 试剂 |
| 31. degradation n. | 降解 |
| 32. other than | 非, 不是, 不同于 |
| 33. unicellular a. | 单细胞的 |

| | | |
|--------------------|----|---------------|
| 34. multicellular | a. | 多细胞的 |
| 35. in so far as | | 就…, 尽… |
| 36. consist of | | 由……组成 |
| 37. on an average | | 按平均计算 |
| 38. luster, lustre | n. | 光泽 |
| 39. alkali | n. | 碱 |
| 40. sail cloth | | 厚篷帆布 |
| 41. tent fabric | | 篷帐织物 |
| 42. sewing thread | | 缝纫线 |
| 43. fishing line | | 钓鱼线 |
| 44. table-cloth | n. | 台布 |
| 45. sheet | n. | 被单布 |
| 46. fibrous | a. | 含纤维的, 纤维状的 |
| 47. covering | n. | 覆盖物, (动物) 表皮 |
| 48. fleece (wool) | n. | 套毛 |
| 49. clip wool | | 剪毛 |
| 50. carcass | n. | (动物的) 尸体 |
| 51. be known as | | 以…知名, 被认(称)为… |
| 52. skin wool | | 皮板毛 |
| 53. pulled wool | | 皮板毛 |
| 54. keratin | n. | 角蛋白 |
| 55. hair fiber | | 毛发纤维 |
| 56. elastic | a. | 弹性的 |
| elastic recovery | | 弹性回复 |
| 57. resilient | a. | 有回弹力的, 弹性的 |
| 58. in other words | | 换句话说 |
| 59. deformation | n. | 变形, 走样 |
| 60. fluffy | a. | 有绒毛的, 绒毛状的 |
| 61. alkaline | a. | 碱(性)的 |
| 62. beetle | n. | 甲虫 |

| | | |
|------------------------------|----|------------------|
| 63. bleach | v. | 漂白 |
| bleaching | n. | 漂白 (工艺) |
| 64. felt | v. | 缩绒 |
| 65. gland | n. | 腺 |
| 66. silkworm | n. | 蚕 |
| 67. cocoon | n. | 蚕茧 |
| 68. spin | v. | 纺纱, 纺丝 |
| 69. web | n. | (蚕丝) 网 |
| 70. filament | n. | 长丝 |
| continuous filament | | 连续长丝 |
| 71. reclaim | v. | 回收, 缁丝 |
| 72. sericin (gum) | n. | 丝胶 |
| 73. pick up | | 整理出来, 抽丝 |
| 74. guide | n. | 导丝器 |
| 75. skein | n. | 绞丝, 绞纱 |
| 76. reeling | n. | 缁 (络) 丝工艺 |
| 77. degumming | n. | 脱胶 |
| 78. touch | n. | 手感 |
| 79. dyeable | a. | 有上染力的 |
| 80. a variety of | | 种种 |
| 81. affinity | n. | 亲和 (合) 力 |
| 82. moisture | n. | 水分 |
| 83. absorbency | n. | 吸光度, 吸收 (光) 辐射能力 |
| 84. heat-preserving property | | 保暖性 |

Notes to the Grammar

- ① These are quite small in amount, say, not more than 4 per cent together,

此句中的“say”，是一种祈使语气用法 (= Let's say)，也可看作插入语，意为“比如说，就说…”。

- ② Generally these are objectionable effects and would make it difficult to colour and finish cotton fabrics satisfactorily, ...

这里动词 would make 非实际的过去将来时态，而是一种推理的虚拟；它是形式宾语(实际宾语为不定式短语 to colour and finish cotton fabrics satisfactorily)，difficult 为宾语补足语。按语法规则，宾语为不定式(短语)或从句，而其后带有宾语补足语时，必先用形式宾语 it，接着把宾语补足语置前，再是实际宾语。

- ③ Wool and other hair fibers have an elastic recovery of 99% from 2% and 60% from 35% extension, respectively.

此句是一种简略结构，如补足，应是：...have an elastic recovery of 99% from 2% extension and have an elastic recovery of 60% from 35% extension.

- ④ it is readily attacked by moths and carpet beetles unless treated to resist them; ...

此句中unless(除非)连接的条件状语从句中，省略了主语 it 与构成被动语态的助动词 is，即应是：unless it is treated to resist them；在条件、时间、让步状语从句中往往有这种省略，但必须是省略的主语即主句中的主语，而且谓语动词要含有动词 be 或助动词 be。

第一部分：纺织纤维

1. 天然纤维

纤维是织物的基本单元。纺织纤维可以分为两大类，即天然纤维

和人造（化学）纤维。

当今使用的主要天然纤维有棉花、亚麻、羊毛和蚕丝。至于它们的性质和加工，则很不相同。

棉花

棉花是最重要和使用最广泛的植物纤维。它取自种植在温湿性气候和世界大部分地区的棉花作物。1980年棉花生产领先国家为美国、苏联、中国、印度和巴基斯坦。棉纤维大部分由纤维素组成。除纤维素外，原棉还含有若干其它物质，主要是棉蜡、果胶物和无机物质。这些物质的含量很少，大约总共不超过百分之四，棉纺织厂称它们为杂质。这些杂质一般起着不良作用，会使棉织物的染色和整理难以取得满意效果，因此在染色和整理工艺中，总是第一步先对棉织品进行尽量彻底的除杂纯净。

棉出色地适宜于多方面用途，因而事实上一直受到消费者的普遍欢迎。它用于服装衣料、家庭用品织物以及工业上的各种用途。它对上色和各种整理的接受力，加上它的舒适感，使它对崇尚时式的消费者来说，尤为乐于选用。棉还广泛地用于同人造纤维混纺，以取得单纺纤维无法有的那些新的结合特性。

棉也存在某些缺点。它容易折皱，不经防震处理会受霉菌蛀损，容易被酸剂或酸性物质侵蚀，而且经不住阳光的日久影响，会产生泛黄和纤维降解。

亚麻

所有植物纤维，除了棉花是唯一的单细胞植物纤维外，全是多细胞的。最著名而使用最多的多细胞纤维是亚麻。麻还有其它几种，诸如黄麻、大麻和苧麻。

亚麻织物由亚麻植物中取得的纤维制成。亚麻纤维就由纤维素组成这一点来说，类似于棉花，只是纤维素含量较低。亚麻纤维平均只含大约百分之七十五纯纤维素，其余则是一种粘性果胶物质。每根纤