

Marx Hardy Machiavelli Joyce Austen
Defoe Abbot Melville Montaigne Cooper Emerson Hugo
Stoker Wilde Christie Maupassant Haggard Chesterton Molière Eliot Grimm
Garnett Engels Schiller Byron Maupassant Schiller
Goethe Hawthorne Smith Kafka
Cotton Dostoyevsky Dostoyevsky Smith Willis
Baum Henry Kipling Doyle Henry Willis
Leslie Dumas Flaubert Nietzsche Turgenev Balzac
Stockton Vatsyayana Crane
Burroughs Verne
Curtis Tocqueville Gogol Vinci
Homer Tolstoy Whitman Gogol Busch
Darwin Thoreau Twain Plato Scott
Potter Zola Lawrence Dickens Plato Scott
Kant Freud Jowett Stevenson Dickens Plato Scott
Andersen Andersen Cervantes Burton Hesse Harte
London Descartes Wells Voltaire Cooke
Poe Aristotle Wells Voltaire Cooke
Hale James Hastings Shakespeare Chamberlain Irving
Bunner Shakespeare Chamberlain Irving
Richter Chekhov da Shakespeare Chamberlain Irving
Doré Dante Shaw Wodehouse
Swift Chekhov Pushkin Alcott
Newton



tredition was established in 2006 by Sandra Latusseck and Soenke Schulz. Based in Hamburg, Germany, tredition offers publishing solutions to authors and publishing houses, combined with worldwide distribution of printed and digital book content. tredition is uniquely positioned to enable authors and publishing houses to create books on their own terms and without conventional manufacturing risks.

For more information please visit: www.tredition.com

TREDITION CLASSICS

This book is part of the TREDITION CLASSICS series. The creators of this series are united by passion for literature and driven by the intention of making all public domain books available in printed format again - worldwide. Most TREDITION CLASSICS titles have been out of print and off the bookstore shelves for decades. At tredition we believe that a great book never goes out of style and that its value is eternal. Several mostly non-profit literature projects provide content to tredition. To support their good work, tredition donates a portion of the proceeds from each sold copy. As a reader of a TREDITION CLASSICS book, you support our mission to save many of the amazing works of world literature from oblivion. See all available books at www.tredition.com.



The content for this book has been graciously provided by Project Gutenberg. Project Gutenberg is a non-profit organization founded by Michael Hart in 1971 at the University of Illinois. The mission of Project Gutenberg is simple: To encourage the creation and distribution of eBooks. Project Gutenberg is the first and largest collection of public domain eBooks.

The Elements of Drawing In Three Letters to Beginners

John Ruskin

Imprint

This book is part of TREDITION CLASSICS

Author: John Ruskin

Cover design: Buchgut, Berlin - Germany

Publisher: tredition GmbH, Hamburg - Germany

ISBN: 978-3-8472-2042-8

www.tredition.com

www.tredition.de

Copyright:

The content of this book is sourced from the public domain.

The intention of the TREDITION CLASSICS series is to make world literature in the public domain available in printed format. Literary enthusiasts and organizations, such as Project Gutenberg, worldwide have scanned and digitally edited the original texts. tredition has subsequently formatted and redesigned the content into a modern reading layout. Therefore, we cannot guarantee the exact reproduction of the original format of a particular historic edition. Please also note that no modifications have been made to the spelling, therefore it may differ from the orthography used today.

Library Edition

THE COMPLETE WORKS

OF

JOHN RUSKIN

ELEMENTS OF DRAWING AND
PERSPECTIVE
THE TWO PATHS
UNTO THIS LAST
MUNERA PULVERIS
SESAME AND LILIES
ETHICS OF THE DUST

NATIONAL LIBRARY ASSOCIA-
TION

NEW YORK CHICAGO

THE ELEMENTS OF DRAWING

IN

THREE LETTERS TO BEGINNERS.

["The Elements of Drawing" was written during the winter of 1856. The First Edition was published in 1857; the Second followed in the same year, with some additions and slight alterations. The Third Edition consisted of sixth thousand, 1859; seventh thousand, 1860; and eighth thousand, 1861.

The work was partly reproduced in "Our Sketching Club," by the Rev. R. St. John Tyrwhitt, M.A., 1874; with new editions in 1875, 1882, and 1886.

Mr. Ruskin meant, during his tenure of the Slade Professorship at Oxford, to recast his teaching, and to write a systematic manual for the use of his Drawing School, under the title of "The Laws of Fésole." Of this only vol. i. was completed, 1879; second edition, 1882.

As, therefore, "The Elements of Drawing" has never been completely superseded, and as many readers of Mr. Ruskin's works have expressed a desire to possess the book in its old form, it is now reprinted as it stood in 1859.]

ADVERTISEMENT

TO

THE SECOND EDITION.

As one or two questions, asked of me since the publication of this work, have indicated points requiring elucidation, I have added a few short notes in the first Appendix. It is not, I think, desirable otherwise to modify the form or add to the matter of a book as it passes through successive editions; I have, therefore, only mended the wording of some obscure sentences; with which exception the text remains, and will remain, in its original form, which I had carefully considered. Should the public find the book useful, and call for further editions of it, such additional notes as may be necessary will be always placed in the first Appendix, where they can be at once referred to, in any library, by the possessors of the earlier editions; and I will take care they shall not be numerous.

August 3, 1857.

ix

PREFACE.

i. It may perhaps be thought, that in prefacing a manual of drawing, I ought to expatiate on the reasons why drawing should be learned; but those reasons appear to me so many and so weighty, that I cannot quickly state or enforce them. With the reader's permission, as this volume is too large already, I will waive all discussion respecting the importance of the subject, and touch only on those points which may appear questionable in the method of its treatment.

ii. In the first place, the book is not calculated for the use of children under the age of twelve or fourteen. I do not think it advisable to engage a child in any but the most voluntary practice of art. If it has talent for drawing, it will be continually scrawling on what paper it can get; and should be allowed to scrawl at its own free will, due praise being given for every appearance of care, or truth, in its efforts. It should be allowed to amuse itself with cheap colors

almost as soon as it has sense enough to wish for them. If it merely daubs the paper with shapeless stains, the color-box may be taken away till it knows better: but as soon as it begins painting red coats on soldiers, striped flags to ships, etc., it should have colors at command; and, without restraining its choice of subject in that imaginative and historical art, of a military tendency, which children delight in, (generally quite as valuable, by the way, as any historical art delighted in by their elders,) it should be gently led by the parents to try to draw, in such childish fashion as may be, the things it can see and likes, — birds, or butterflies, or flowers, or fruit.

iii. In later years, the indulgence of using the color should only be granted as a reward, after it has shown care and x progress in its drawings with pencil. A limited number of good and amusing prints should always be within a boy's reach: in these days of cheap illustration he can hardly possess a volume of nursery tales without good wood-cuts in it, and should be encouraged to copy what he likes best of this kind; but should be firmly restricted to a *few* prints and to a few books. If a child has many toys, it will get tired of them and break them; if a boy has many prints he will merely dawdle and scrawl over them; it is by the limitation of the number of his possessions that his pleasure in them is perfected, and his attention concentrated. The parents need give themselves no trouble in instructing him, as far as drawing is concerned, beyond insisting upon economical and neat habits with his colors and paper, showing him the best way of holding pencil and rule, and, so far as they take notice of his work, pointing out where a line is too short or too long, or too crooked, when compared with the copy; *accuracy* being the first and last thing they look for. If the child shows talent for inventing or grouping figures, the parents should neither check, nor praise it. They may laugh with it frankly, or show pleasure in what it has done, just as they show pleasure in seeing it well, or cheerful; but they must not praise it for being clever, any more than they would praise it for being stout. They should praise it only for what costs it self-denial, namely attention and hard work; otherwise they will make it work for vanity's sake, and always badly. The best books to put into its hands are those illustrated by George Cruikshank or by Richter. (See Appendix.) At about the age of twelve or fourteen, it is quite time enough to set youth or girl to serious work; and then this

book will, I think, be useful to them; and I have good hope it may be so, likewise, to persons of more advanced age wishing to know something of the first principles of art.

iv. Yet observe, that the method of study recommended is not brought forward as absolutely the best, but only as the best which I can at present devise for an isolated student. It is very likely that farther experience in teaching may enable me to modify it with advantage in several important respects; but I am sure the main principles of it are sound, and most of the exercises as useful as they can be rendered without a master's superintendence. The method differs, however, so materially from that generally adopted by drawing-masters, that a word or two of explanation may be needed to justify what might otherwise be thought willful eccentricity.

v. The manuals at present published on the subject of drawing are all directed, as far as I know, to one or other of two objects. Either they propose to give the student a power of dexterous sketching with pencil or water-color, so as to emulate (at considerable distance) the slighter work of our second-rate artists; or they propose to give him such accurate command of mathematical forms as may afterwards enable him to design rapidly and cheaply for manufactures. When drawing is taught as an accomplishment, the first is the aim usually proposed; while the second is the object kept chiefly in view at Marlborough House, and in the branch Government Schools of Design.

vi. Of the fitness of the modes of study adopted in those schools, to the end specially intended, judgment is hardly yet possible; only, it seems to me, that we are all too much in the habit of confusing art as *applied* to manufacture, with manufacture itself. For instance, the skill by which an inventive workman designs and molds a beautiful cup, is skill of true art; but the skill by which that cup is copied and afterwards multiplied a thousandfold, is skill of manufacture: and the faculties which enable one workman to design and elaborate his original piece, are not to be developed by the same system of instruction as those which enable another to produce a maximum number of approximate copies of it in a given time. Farther: it is surely inexpedient that any reference to purposes of manufacture should interfere with the education of the artist himself. Try first to

manufacture a Raphael; then let Raphael direct your manufacture. He will design you a plate, or cup, or a house, or a xii palace, whenever you want it, and design them in the most convenient and rational way; but do not let your anxiety to reach the platter and the cup interfere with your education of the Raphael. Obtain first the best work you can, and the ablest hands, irrespective of any consideration of economy or facility of production. Then leave your trained artist to determine how far art can be popularized, or manufacture ennobled.

vii. Now, I believe that (irrespective of differences in individual temper and character) the excellence of an artist, as such, depends wholly on refinement of perception, and that it is this, mainly, which a master or a school can teach; so that while powers of invention distinguish man from man, powers of perception distinguish school from school. All great schools enforce delicacy of drawing and subtlety of sight: and the only rule which I have, as yet, found to be without exception respecting art, is that all great art is delicate.

viii. Therefore, the chief aim and bent of the following system is to obtain, first, a perfectly patient, and, to the utmost of the pupil's power, a delicate method of work, such as may insure his seeing truly. For I am nearly convinced, that when once we see keenly enough, there is very little difficulty in drawing what we see; but, even supposing that this difficulty be still great, I believe that the sight is a more important thing than the drawing; and I would rather teach drawing that my pupils may learn to love Nature, than teach the looking at Nature that they may learn to draw. It is surely also a more important thing, for young people and unprofessional students, to know how to appreciate the art of others, than to gain much power in art themselves. Now the modes of sketching ordinarily taught are inconsistent with this power of judgment. No person trained to the superficial execution of modern water-color painting, can understand the work of Titian or Leonardo; they must forever remain blind to the refinement of such men's penciling, and the precision of their thinking. But, however slight a degree xiii of manipulative power the student may reach by pursuing the mode recommended to him in these letters, I will answer for it that he cannot go once through the advised exercises without beginning to understand what masterly work means; and, by the time he has

gained some proficiency in them, he will have a pleasure in looking at the painting of the great schools, and a new perception of the exquisiteness of natural scenery, such as would repay him for much more labor than I have asked him to undergo.

ix. That labor is, nevertheless, sufficiently irksome, nor is it possible that it should be otherwise, so long as the pupil works unassisted by a master. For the smooth and straight road which admits unembarrassed progress must, I fear, be dull as well as smooth; and the hedges need to be close and trim when there is no guide to warn or bring back the erring traveler. The system followed in this work will, therefore, at first, surprise somewhat sorrowfully those who are familiar with the practice of our class at the Working Men's College; for there, the pupil, having the master at his side to extricate him from such embarrassments as his first efforts may lead into, is *at once* set to draw from a solid object, and soon finds entertainment in his efforts and interest in his difficulties. Of course the simplest object which it is possible to set before the eye is a sphere; and, practically, I find a child's toy, a white leather ball, better than anything else; as the gradations on balls of plaster of Paris, which I use sometimes to try the strength of pupils who have had previous practice, are a little too delicate for a beginner to perceive. It has been objected that a circle, or the outline of a sphere, is one of the most difficult of all lines to draw. It is so; [A] but I do not want it to be drawn. All that his study of the ball is to teach the pupil, is the way in which shade gives the appearance of projection. This he learns most satisfactorily from a sphere; because any solid form, terminated by straight lines or flat surfaces, owes some of its appearance of projection to *xiv* its perspective; but in the sphere, what, without shade, was a flat circle, becomes, merely by the added shade, the image of a solid ball; and this fact is just as striking to the learner, whether his circular outline be true or false. He is, therefore, never allowed to trouble himself about it; if he makes the ball look as oval as an egg, the degree of error is simply pointed out to him, and he does better next time, and better still the next. But his mind is always fixed on the gradation of shade, and the outline left to take, in due time, care of itself. I call it outline, for the sake of immediate intelligibility,—strictly speaking, it is merely the edge of the shade; no pupil in my class being ever allowed to draw an outline,

in the ordinary sense. It is pointed out to him, from the first, that Nature relieves one mass, or one tint, against another; but outlines none. The outline exercise, the second suggested in this letter, is recommended, not to enable the pupil to draw outlines, but as the only means by which, unassisted, he can test his accuracy of eye, and discipline his hand. When the master is by, errors in the form and extent of shadows can be pointed out as easily as in outline, and the handling can be gradually corrected in details of the work. But the solitary student can only find out his own mistakes by help of the traced limit, and can only test the firmness of his hand by an exercise in which nothing but firmness is required; and during which all other considerations (as of softness, complexity, etc.) are entirely excluded.

x. Both the system adopted at the Working Men's College, and that recommended here, agree, however, in one principle, which I consider the most important and special of all that are involved in my teaching: namely, the attaching its full importance, from the first, to local color. I believe that the endeavor to separate, in the course of instruction, the observation of light and shade from that of local color, has always been, and must always be, destructive of the student's power of accurate sight, and that it corrupts his taste as much as it retards his progress. I will not occupy the reader's time by any discussion of the principle here, but I wish him xv to note it as the only distinctive one in my system, so far as it *is* a system. For the recommendation to the pupil to copy faithfully, and without alteration, whatever natural object he chooses to study, is serviceable, among other reasons, just because it gets rid of systematic rules altogether, and teaches people to draw, as country lads learn to ride, without saddle or stirrups; my main object being, at first, not to get my pupils to hold their reins prettily, but to "sit like a jackanapes, never off."

xi. In these written instructions, therefore, it has always been with regret that I have seen myself forced to advise anything like monotonous or formal discipline. But, to the unassisted student, such formalities are indispensable, and I am not without hope that the sense of secure advancement, and the pleasure of independent effort, may render the following out of even the more tedious exercises here proposed, possible to the solitary learner, without weariness. But if

it should be otherwise, and he finds the first steps painfully irksome, I can only desire him to consider whether the acquirement of so great a power as that of pictorial expression of thought be not worth some toil; or whether it is likely, in the natural order of matters in this working world, that so great a gift should be attainable by those who will give no price for it.

xii. One task, however, of some difficulty, the student will find I have not imposed upon him: namely, learning the laws of perspective. It would be worth while to learn them, if he could do so easily; but without a master's help, and in the way perspective is at present explained in treatises, the difficulty is greater than the gain. For perspective is not of the slightest use, except in rudimentary work. You can draw the rounding line of a table in perspective, but you cannot draw the sweep of a sea bay; you can foreshorten a log of wood by it, but you cannot foreshorten an arm. Its laws are too gross and few to be applied to any subtle form; therefore, as you must learn to draw the subtle forms by the eye, certainly you may draw the simple ones. No great painters ever trouble themselves about perspective, and very few of *xvi* them know its laws; they draw everything by the eye, and, naturally enough, disdain in the easy parts of their work rules which cannot help them in difficult ones. It would take about a month's labor to draw imperfectly, by laws of perspective, what any great Venetian will draw perfectly in five minutes, when he is throwing a wreath of leaves round a head, or bending the curves of a pattern in and out among the folds of drapery. It is true that when perspective was first discovered, everybody amused themselves with it; and all the great painters put fine saloons and arcades behind their Madonnas, merely to show that they could draw in perspective: but even this was generally done by them only to catch the public eye, and they disdained the perspective so much, that though they took the greatest pains with the circlet of a crown, or the rim of a crystal cup, in the heart of their picture, they would twist their capitals of columns and towers of churches about in the background in the most wanton way, wherever they liked the lines to go, provided only they left just perspective enough to please the public.

xiii. In modern days, I doubt if any artist among us, except David Roberts, knows so much perspective as would enable him to draw a

Gothic arch to scale at a given angle and distance. Turner, though he was professor of perspective to the Royal Academy, did not know what he professed, and never, as far as I remember, drew a single building in true perspective in his life; he drew them only with as much perspective as suited him. Prout also knew nothing of perspective, and twisted his buildings, as Turner did, into whatever shapes he liked. I do not justify this; and would recommend the student at least to treat perspective with common civility, but to pay no court to it. The best way he can learn it, by himself, is by taking a pane of glass, fixed in a frame, so that it can be set upright before the eye, at the distance at which the proposed sketch is intended to be seen. Let the eye be placed at some fixed point, opposite the middle of the pane of glass, but as high or as low as the student likes; then with a brush at the end of a stick, and a little body-color xvii that will adhere to the glass, the lines of the landscape may be traced on the glass, as you see them through it. When so traced they are all in true perspective. If the glass be sloped in any direction, the lines are still in true perspective, only it is perspective calculated for a sloping plane, while common perspective always supposes the plane of the picture to be vertical. It is good, in early practice, to accustom yourself to inclose your subject, before sketching it, with a light frame of wood held upright before you; it will show you what you may legitimately take into your picture, and what choice there is between a narrow foreground near you, and a wide one farther off; also, what height of tree or building you can properly take in, etc. [B]

xiv. Of figure drawing, nothing is said in the following pages, because I do not think figures, as chief subjects, can be drawn to any good purpose by an amateur. As accessories in landscape, they are just to be drawn on the same principles as anything else.

xv. Lastly: If any of the directions given subsequently to the student should be found obscure by him, or if at any stage of the recommended practice he find himself in difficulties which I have not enough provided against, he may apply by letter to Mr. Ward, who is my under drawing-master at the Working Men's College (45 Great Ormond Street), and who will give any required assistance, on the lowest terms that can remunerate him for the occupation of his time. I have not leisure myself in general to answer letters of

inquiry, however much I may desire to do so; but Mr. Ward has always the power of referring any question to me when he thinks it necessary. I have good hope, however, xviii that enough guidance is given in this work to prevent the occurrence of any serious embarrassment; and I believe that the student who obeys its directions will find, on the whole, that the best answerer of questions is perseverance; and the best drawing-masters are the woods and hills.

[1857.]

[A] Or, more accurately, appears to be so, because any one can see an error in a circle.

[B] If the student is fond of architecture, and wishes to know more of perspective than he can learn in this rough way, Mr. Runciman (of 49 Acacia Road, St. John's Wood), who was my first drawing-master, and to whom I owe many happy hours, can teach it him quickly, easily, and rightly. [Mr. Runciman has died since this was written: Mr. Ward's present address is Bedford Chambers, 28 Southampton Street, Strand, London, W.C.]

1

THE

ELEMENTS OF DRAWING.

LETTER I.

ON FIRST PRACTICE.

1. My dear Reader,—Whether this book is to be of use to you or not, depends wholly on your reason for wishing to learn to draw. If you desire only to possess a graceful accomplishment, to be able to converse in a fluent manner about drawing, or to amuse yourself listlessly in listless hours, I cannot help you: but if you wish to learn drawing that you may be able to set down clearly, and usefully, records of such things as cannot be described in words, either to assist your own memory of them, or to convey distinct ideas of them to other people; if you wish to obtain quicker perceptions of the beauty of the natural world, and to preserve something like a

true image of beautiful things that pass away, or which you must yourself leave; if, also, you wish to understand the minds of great painters, and to be able to appreciate their work sincerely, seeing it for yourself, and loving it, not merely taking up the thoughts of other people about it; then *I can* help you, or, which is better, show you how to help yourself.

2. Only you must understand, first of all, that these powers, which indeed are noble and desirable, cannot be got without work. It is much easier to learn to draw well, than it is to learn to play well on any musical instrument; but you know that it takes three or four years of practice, giving three or four hours a day, to acquire even ordinary command over the keys of a piano; and you must not think that a masterly command of your pencil, and the knowledge of what may be done with it, can be acquired without painstaking, or in a *very* short time. The kind of drawing which is taught, or supposed to be taught, in our schools, in a term or two, perhaps at the rate of an hour's practice a week, is not drawing at all. It is only the performance of a few dexterous (not always even that) evolutions on paper with a black-lead pencil; profitless alike to performer and beholder, unless as a matter of vanity, and that the smallest possible vanity. If any young person, after being taught what is, in polite circles, called "drawing," will try to copy the commonest piece of real work—suppose a lithograph on the titlepage of a new opera air, or a wood-cut in the cheapest illustrated newspaper of the day,—they will find themselves entirely beaten. And yet that common lithograph was drawn with coarse chalk, much more difficult to manage than the pencil of which an accomplished young lady is supposed to have command; and that wood-cut was drawn in urgent haste, and half spoiled in the cutting afterwards; and both were done by people whom nobody thinks of as artists, or praises for their power; both were done for daily bread, with no more artist's pride than any simple handicraftsmen feel in the work they live by.

3. Do not, therefore, think that you can learn drawing, any more than a new language, without some hard and disagreeable labor. But do not, on the other hand, if you are ready and willing to pay this price, fear that you may be unable to get on for want of special talent. It is indeed true that the persons who have peculiar talent for art, draw instinctively, and get on almost without teaching; though

never without toil. It is true, also, that of inferior talent for drawing there are many degrees: it will take one person a much longer time than another to attain the same results, and the results thus painfully attained are never quite so satisfactory as those got with greater ease when the faculties are 3 naturally adapted to the study. But I have never yet, in the experiments I have made, met with a person who could not learn to draw at all; and, in general, there is a satisfactory and available power in every one to learn drawing if he wishes, just as nearly all persons have the power of learning French, Latin, or arithmetic, in a decent and useful degree, if their lot in life requires them to possess such knowledge.

4. Supposing then that you are ready to take a certain amount of pains, and to bear a little irksomeness and a few disappointments bravely, I can promise you that an hour's practice a day for six months, or an hour's practice every other day for twelve months, or, disposed in whatever way you find convenient, some hundred and fifty hours' practice, will give you sufficient power of drawing faithfully whatever you want to draw, and a good judgment, up to a certain point, of other people's work: of which hours if you have one to spare at present, we may as well begin at once.

EXERCISE I.

5. Everything that you can see in the world around you, presents itself to your eyes only as an arrangement of patches of different colors variously shaded. [1] Some of these patches 4 of color have an appearance of lines or texture within them, as a piece of cloth or silk has of threads, or an animal's skin shows texture of hairs: but whether this be the case or not, the first broad aspect of the thing is that of a patch of some definite color; and the first thing to be learned is, how to produce extents of smooth color, without texture.

6. This can only be done properly with a brush; but a brush, being soft at the point, causes so much uncertainty in the touch of an unpracticed hand, that it is hardly possible to learn to draw first with it, and it is better to take, in early practice, some instrument with a hard and fine point, both 5 that we may give some support to the hand, and that by working over the subject with so delicate a point, the attention may be properly directed to all the most minute parts of it. Even the best artists need occasionally to study subjects with a

pointed instrument, in order thus to discipline their attention: and a beginner must be content to do so for a considerable period.



Fig. 1.

7. Also, observe that before we trouble ourselves about differences of color, we must be able to lay on *one* color properly, in whatever gradations of depth and whatever shapes we want. We will try, therefore, first to lay on tints or patches of gray, of whatever depth we want, with a pointed instrument. Take any finely pointed steel pen (one of Gillott's lithographic crowquills is best), and a piece of quite smooth, but not shining, note-paper, cream laid, and get some ink that has stood already some time in the inkstand, so as to be quite black, and as thick as it can be without clogging the pen. Take a rule, and draw four straight lines, so as to inclose a square, or nearly a square, about as large as *a*, Fig. 1. I say nearly a square, because it does not in the least matter whether it is quite square or not, the object being merely to get a space inclosed by straight lines.

8. Now, try to fill in that square space with crossed lines, so completely and evenly that it shall look like a square patch of gray silk or cloth, cut out and laid on the white paper, as at *b*. Cover it quickly, first with straightish lines, in any direction you like, not troubling yourself to draw them much closer or neater than those in the square *a*. Let them quite dry before retouching them. (If you draw three or four squares side by side, you may always be going on with one *b* while the others are drying.) Then cover these lines with others in a different direction, and let those dry; then in another direction still, and let those dry. Always wait long enough to run no risk of blotting, and then draw the lines as quickly as you can. Each

ought to be laid on as swiftly as the dash of the pen of a good writer; but if you try to reach this great speed at first, you will go over the edge of the square, which is a fault in this exercise. Yet it is better to do so now and then than to draw the lines very slowly; for if you do, the pen leaves a little dot of ink at the end of each line, and these dots spoil your work. So draw each line quickly, stopping always as nearly as you can at the edge of the square. The ends of lines which go over the edge are afterwards to be removed with the penknife, but not till you have done the whole work, otherwise you roughen the paper, and the next line that goes over the edge makes a blot.

9. When you have gone over the whole three or four times, you will find some parts of the square look darker than other parts. Now try to make the lighter parts as dark as the rest, so that the whole may be of equal depth or darkness. You will find, on examining the work, that where it looks darkest the lines are closest, or there are some much darker lines than elsewhere; therefore you must put in other lines, or little scratches and dots, *between* the lines in the paler parts; and where there are any very conspicuous dark lines, scratch them out lightly with the penknife, for the eye must not be attracted by any line in particular. The more carefully and delicately you fill in the little gaps and holes the better; you will get on faster by doing two or three squares perfectly than a great many badly. As the tint gets closer and begins to look even, work with very little ink in your pen, so as hardly to make any mark on the paper; and at last, where it is too dark, use the edge of your penknife very lightly, and for some time, to wear it softly into an even tone. You will find that the greatest difficulty consists in getting evenness: one bit will always look darker than another bit of your square; or there will be a granulated and sandy look over the whole. When you find your paper quite rough and in a mess, give it up and begin another square, but do not rest satisfied till you have done your best with every square. The tint at last ought at least to be as close and even as that in *b*, Fig. 1. You will find, however, that it is very difficult to get a pale tint; because, naturally, the ink lines necessary to produce a close tint at all, blacken the paper more than you want. You must get over this difficulty not so much by leaving the lines wide apart as by trying to draw them excessively fine, lightly and swiftly; being very cautious