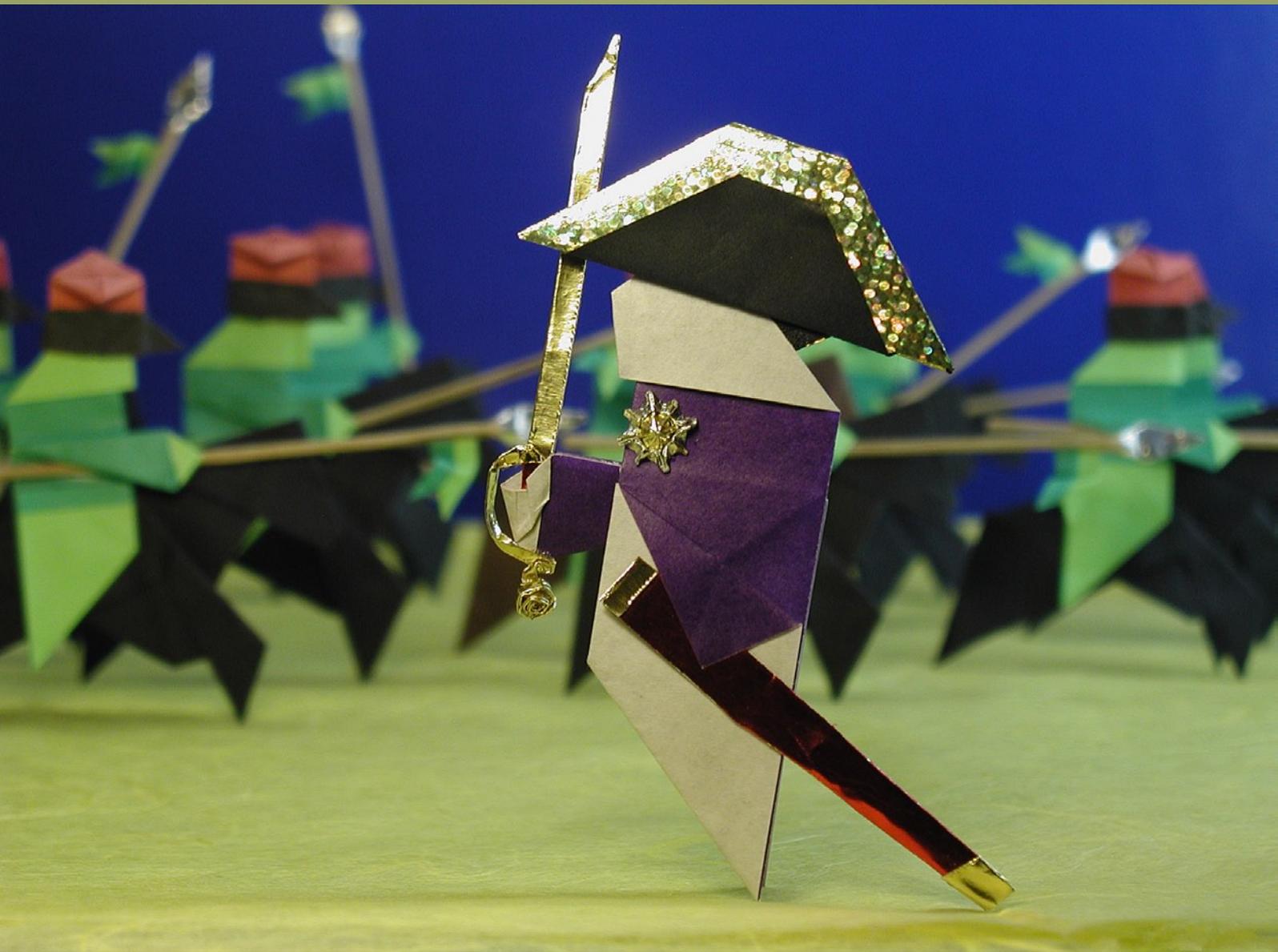
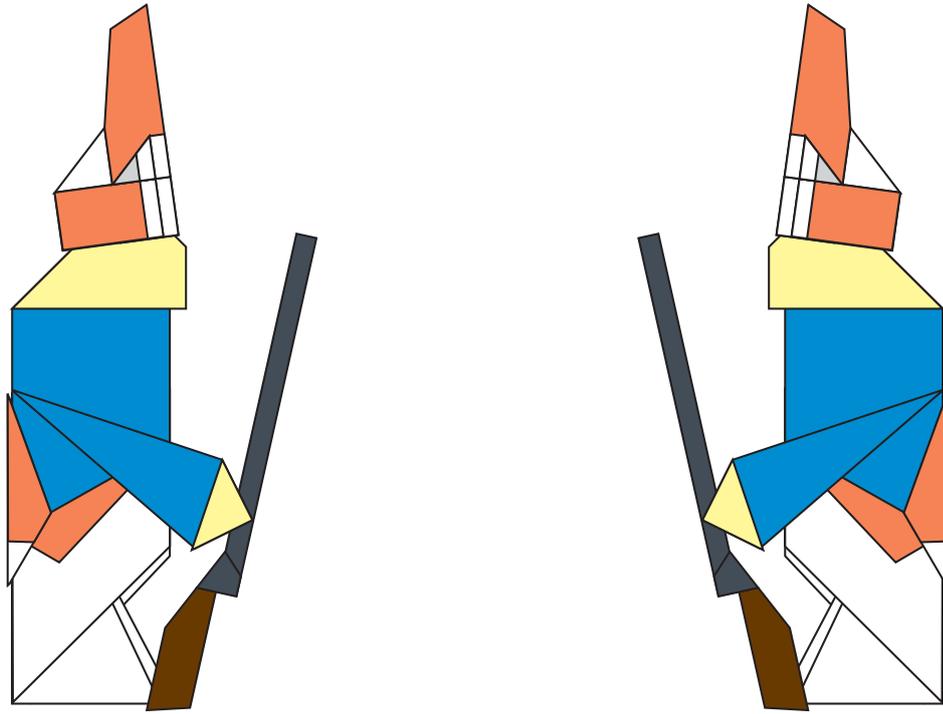


# Jens-Helge Dahmen

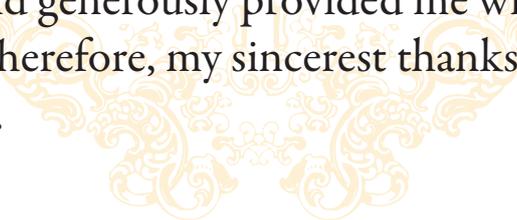


An Origami Army  
of the Past



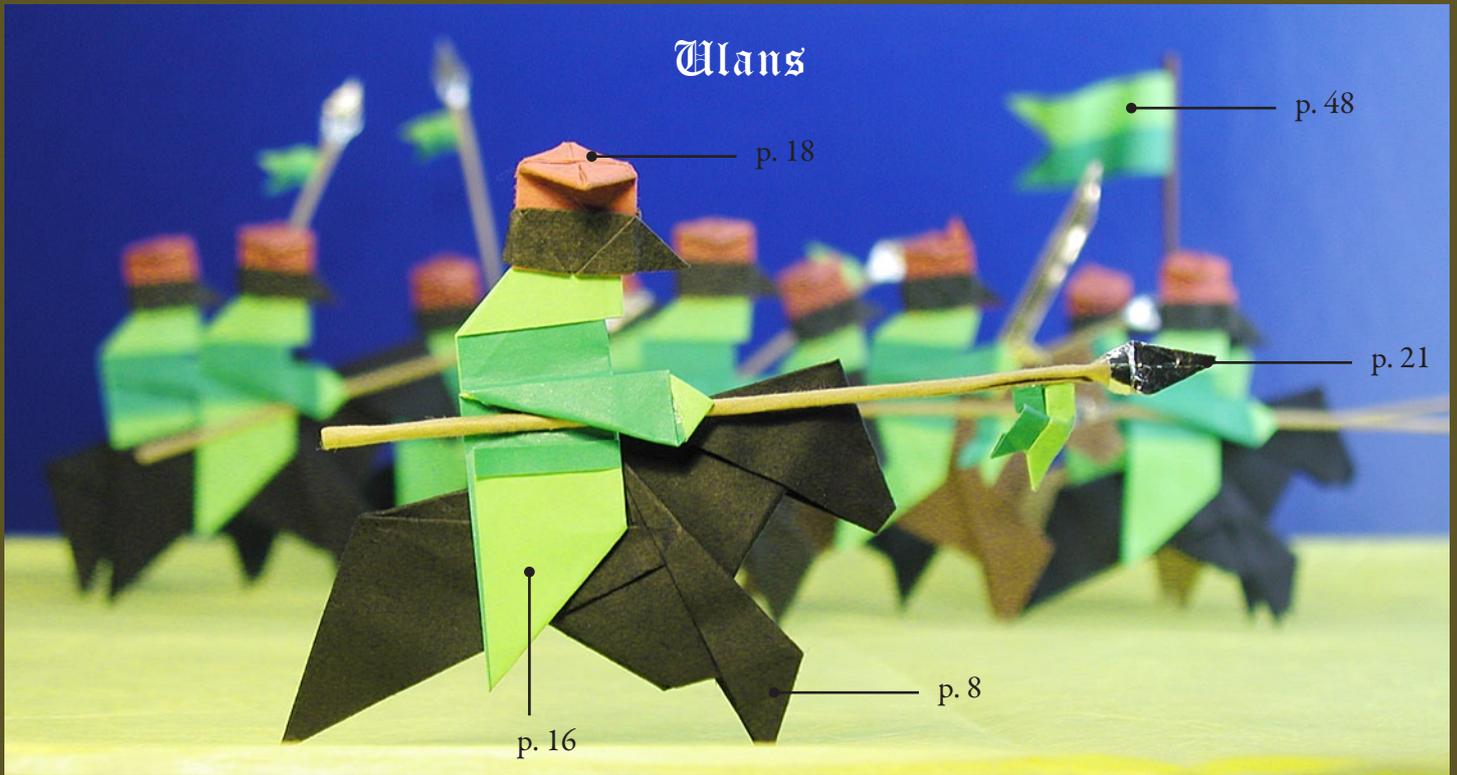
## Acknowledgments

This book would not have been made possible without the unselfish assistance of Birgit “Biggi” Francis. She translated the preface and each chapter’s introduction into English. Joan Sallas encouraged me to take a look at the historic origami models of horse and rider. His research into origami history in the German-speaking region strongly influenced me. Joan always and generously provided me with his research results. Therefore, my sincerest thanks go out to Biggi and Joan.

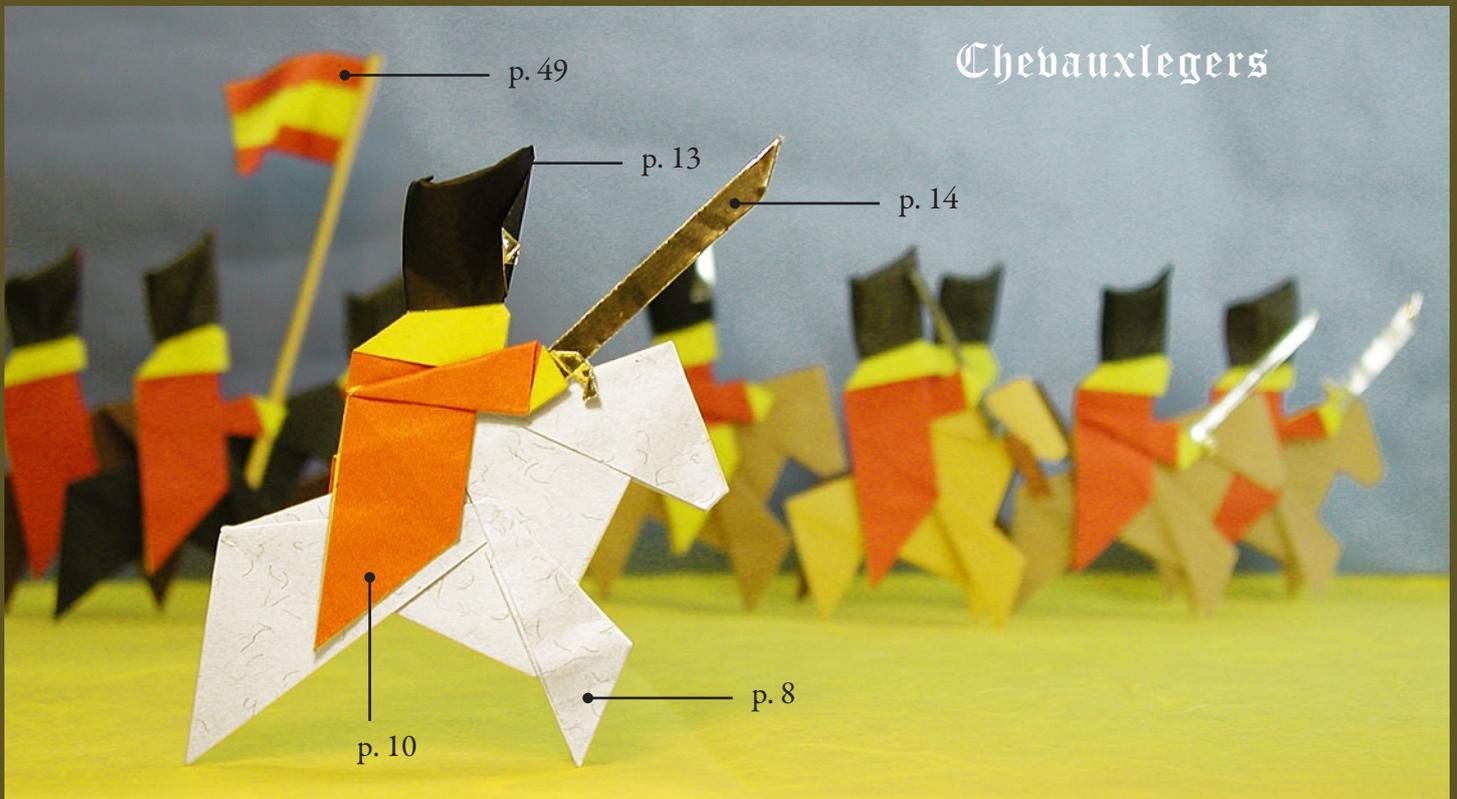


# An Origami Army of the Past – Jens-Helge Dahmen

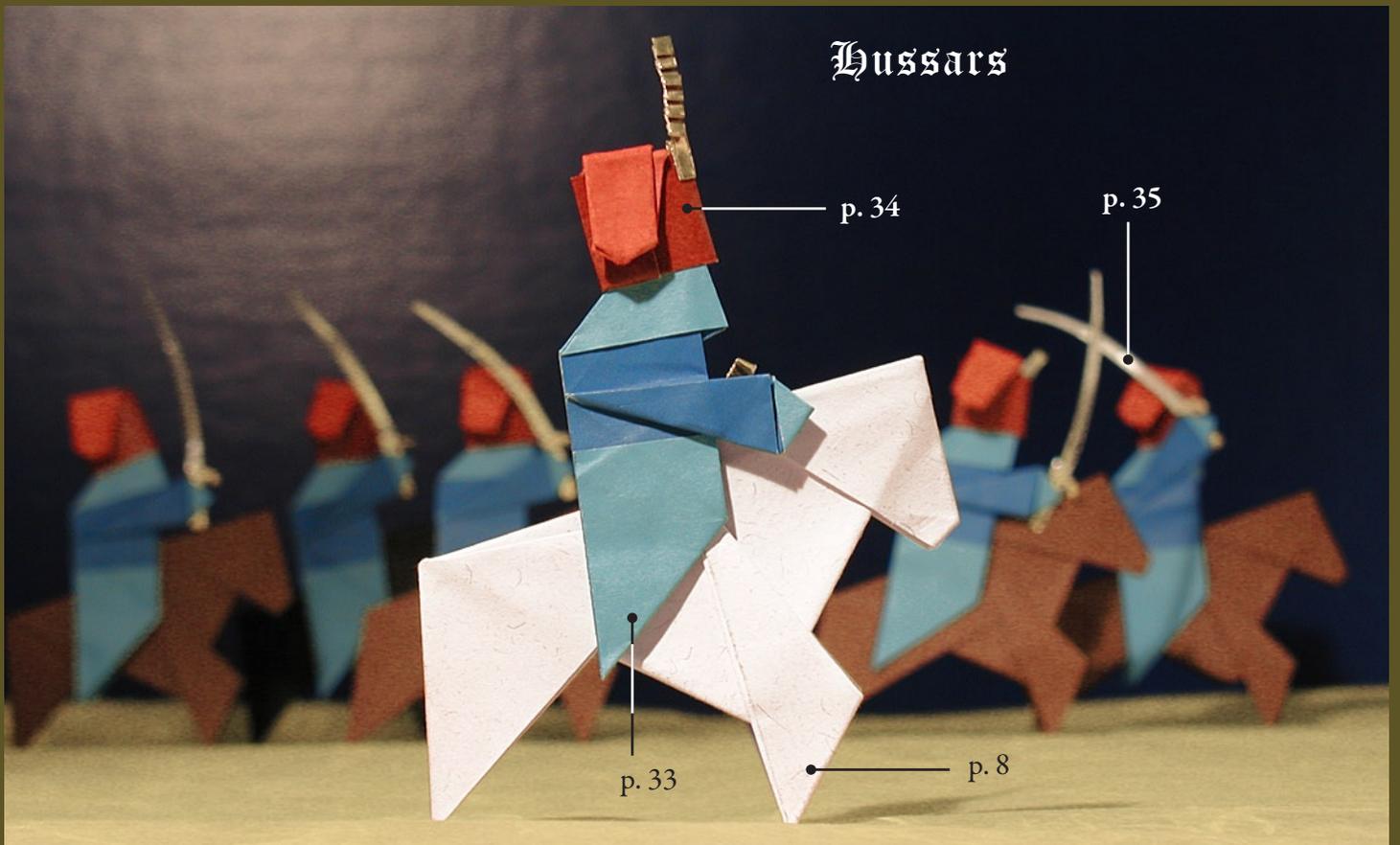
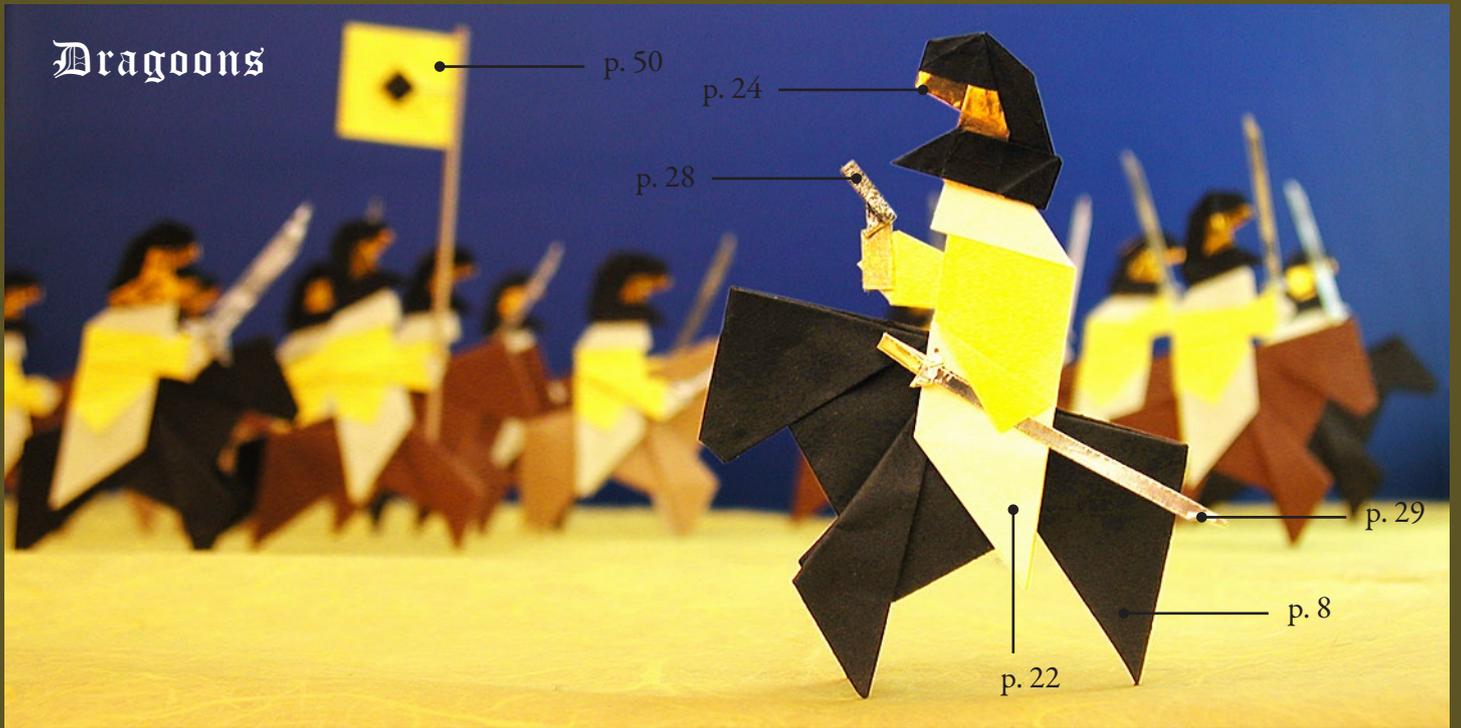
## Wans



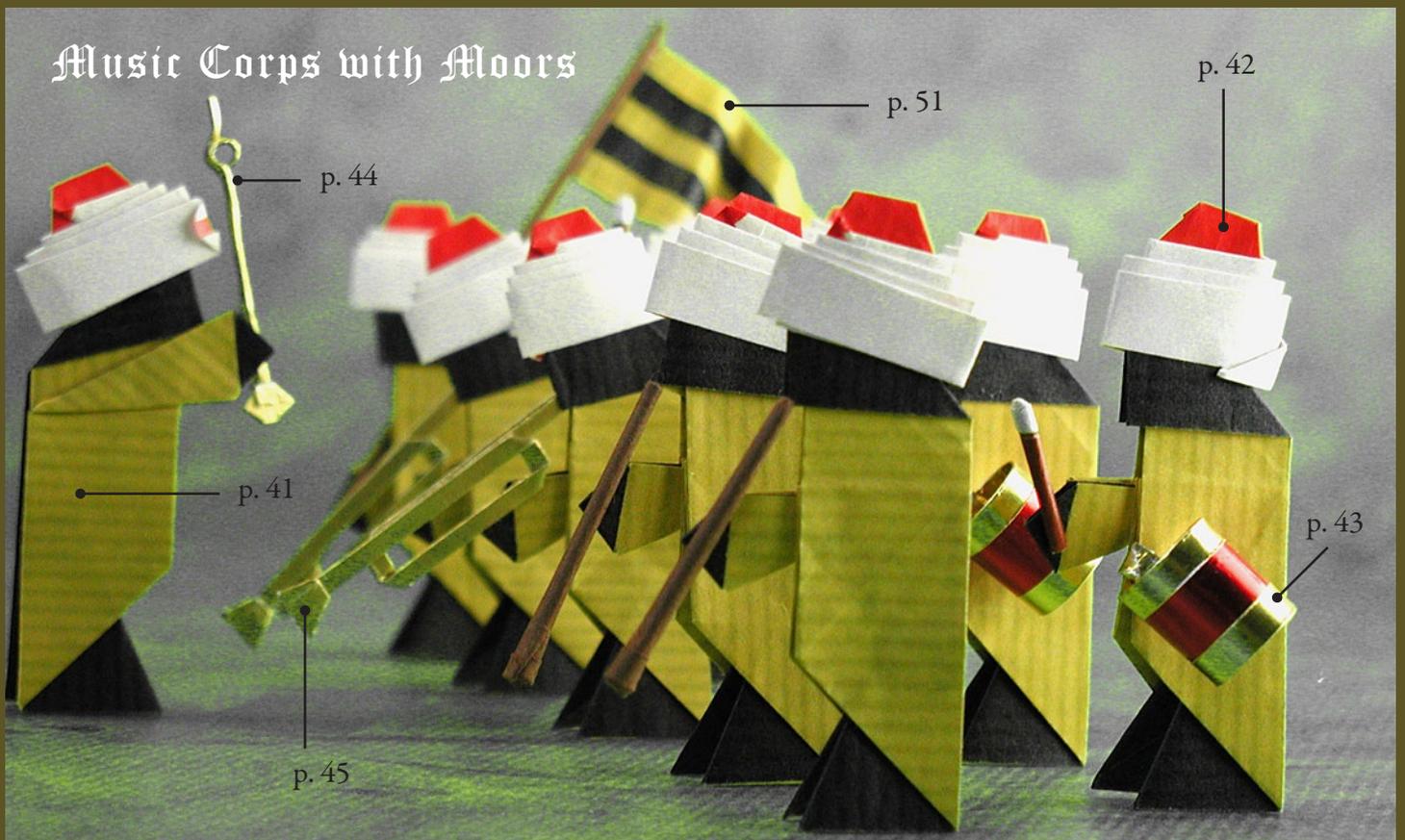
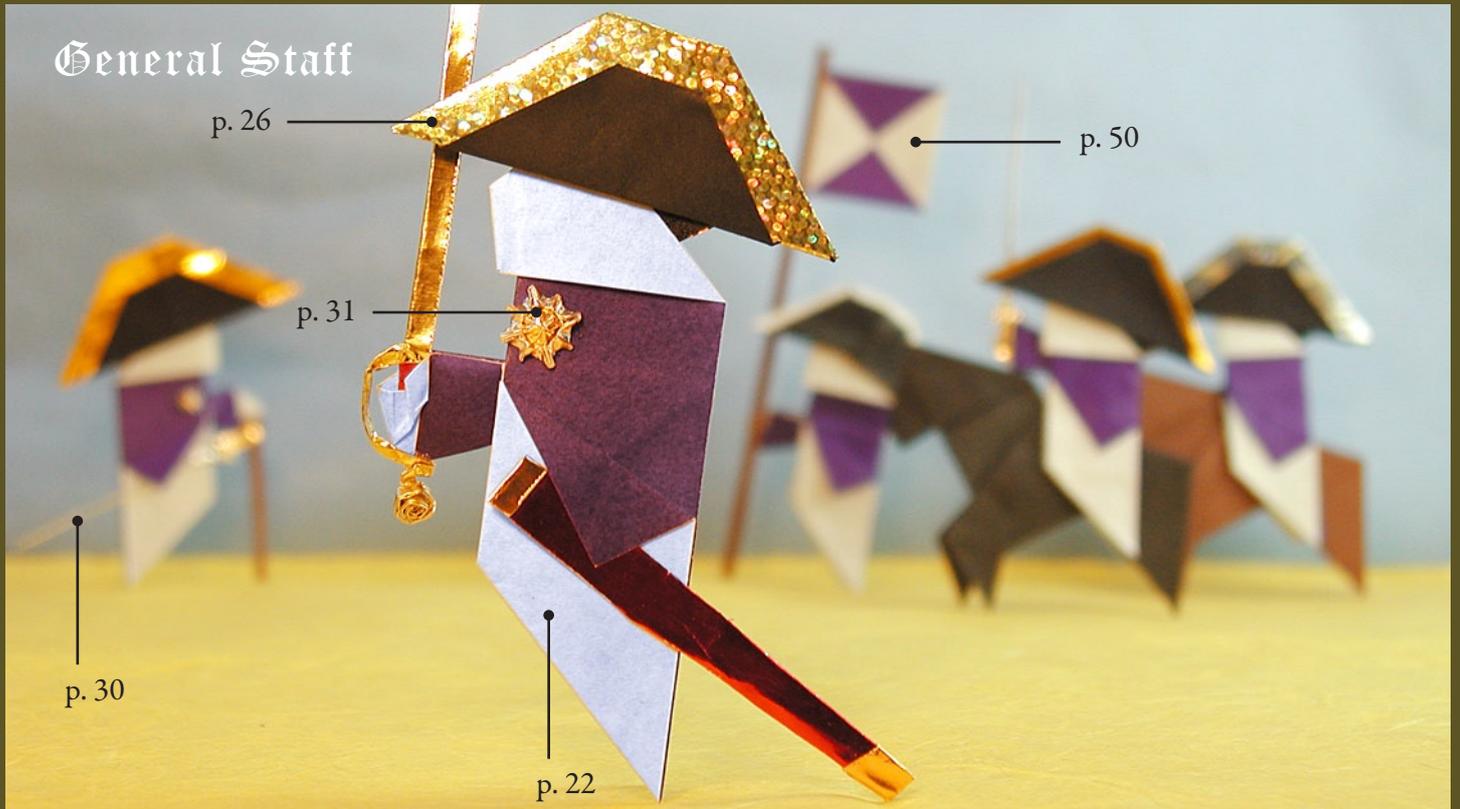
## Chebauxlegers



# An Origami Army of the Past – Jens-Helge Dahmen



# An Origami Army of the Past – Jens-Helge Dahmen



# An Origami Army of the Past – Jens-Helge Dahmen



# Contents

The Historic Rider and Horse – A New Glance . . . . .	Page 6
Cavalry Horses . . . . .	Page 8
Chevauxlegers . . . . .	Page 10
Ulans . . . . .	Page 16
Dragoons . . . . .	Page 22
General Staff. . . . .	Page 22
Hussars . . . . .	Page 32
Grenadiers . . . . .	Page 36
Music Corps with Moors . . . . .	Page 40
Troop Colors . . . . .	Page 46
Folding Symbols . . . . .	Page 54
Appendix: The Historic Rider and Horse . . . . .	Page 56



# *The Historic Rider and Horse – A New Glance*

*In some very old German books I found the models of the historic rider and horse. More than one variation has been documented. You will find an overview in the last chapter of this book.*

*At first, while folding the helmets and weapons for a knight based on the historical rider (see my website: [www.freeweb.com/falbkunst](http://www.freeweb.com/falbkunst)), I was inspired to create an origami cavalry. So, here are the diagrams for hussars, ulans, dragoons, chevauclegers and the general staff. Furthermore, I created a rider's arm, some jackets, helmets, shields, weapons and flags.*

*This equipment is really folded and not cut as 200 years ago. To improve the historic rider I folded a new head for rider and horse.*



*In the end, after studying Prussian history a little, I thought: "What is a cavalry of the 18th century without the "soldier king", his personal elite force and military musicians?" So I created a music corps with moors (in German: "Mohren") and the Potsdam Giants or "long guys" (in German: "Lange Kerls") as they were nicknamed by the Prussian population.*

*I wish all origami enthusiasts a lot of fun with reading, folding, and playing.*

*Jens-Helge Dahmen*

*Berlin, 2012*



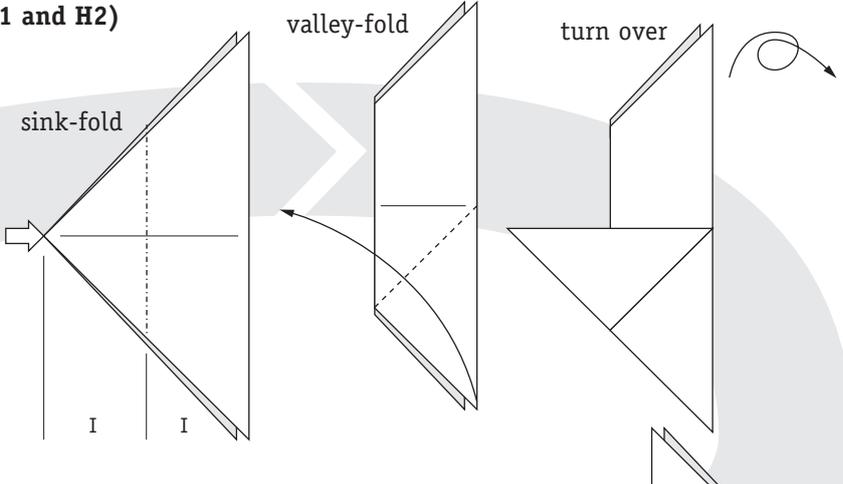
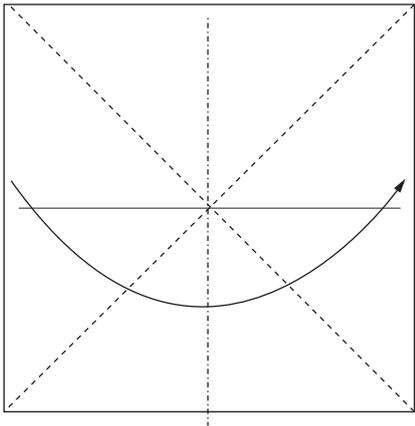
# Cavalry Horses

The breeding goals of studs for cavalry horses changed particularly starting in the mid-18th century up to the beginning of the 19th century. During this period European countries established powerful artillery battalions for their armies. For the battle formation that meant to assemble the troops in a casual manner and to quicker move them through enemy fire. Therefore, the breeding and dressage of horses easy to maneuver, capable of changing tempo fast, and capable of close combat were discontinued. Instead horses were bred and trained that could speed up fast and had a wide length of stride when galloping.

For each branch of service of the cavalry special horses were bred. The cuirassiers needed the heaviest and largest horses, hussars needed the lightest and fastest horses. In the beginning of the 19th century the upper limit for prices of cavalry horses were fixed by decree in Russia as follows: Cuirassier horse maximal 100 rubles, dragoon horse maximal 50 rubles, and hussar horse maximal 40 rubles (annual salary of a public officer: approx. 6,000 rubles; average annual income of a peasant at the end of the 19th century: 113 rubles).



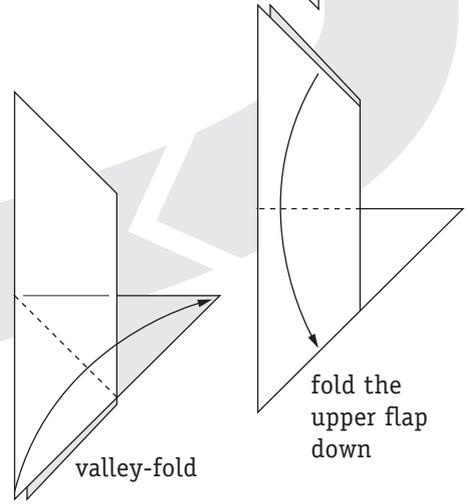
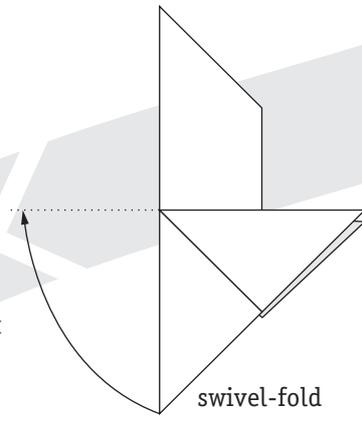
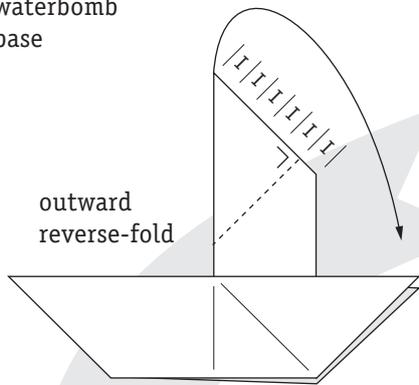
Variation of the historical horse (H1 and H2)



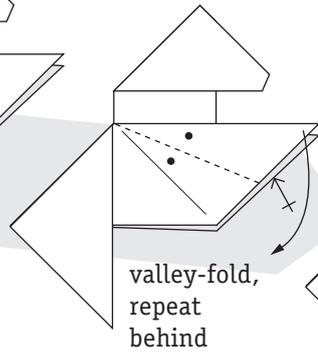
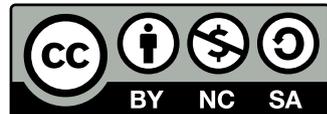
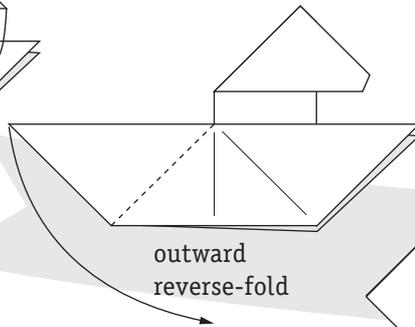
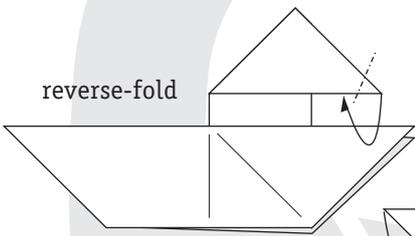
valley-fold

turn over

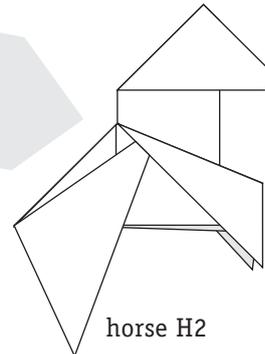
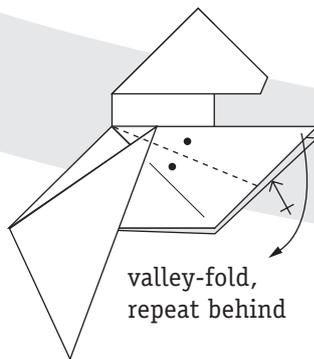
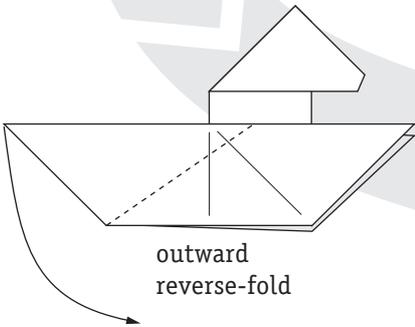
- size for horse: 9x9 cm
- size for donkey: 7,5x7,5 cm
- same color on both sides
- collapse to a waterbomb base



fold the upper flap down



horse H1



# Chevauxlegers

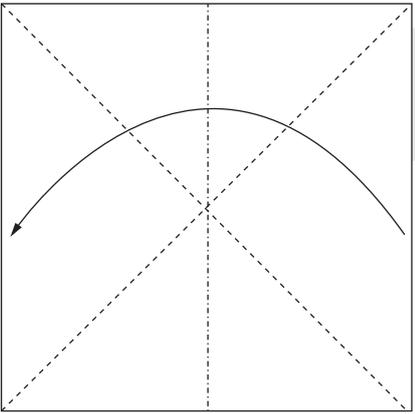
The term “chevauxleger” is composed of the French terms for “horses” and “light(-weight)”. Therefore, nobody will be surprised that this branch of service actually evolved in France. The end of the 15th century chevauxlegers were formed up as a light cavalry in order to have a strategic advantage towards the clumsy, medieval, armored cavaliers. The unarmored chevauxlegers equipped with light-weight horses were used as scouts, to secure the flanks in a battle, and for smaller encounters with the enemy. Starting in the mid-18th century chevauxleger regiments were also formed up in many other European countries.

Regarding duties and armament of chevauxlegers, there were overlaps with the dragoons, ulans and hussars. In France there were, at times, chevauxlegers that were equipped with lances. The reorganization of chevauxlegers into dragoons and vice versa was a popular measure in European armies in the 18th and 19th century. Typically there is no difference between a chevauxleger’s and a dragoon’s armament: A saber and a couple of pistols.

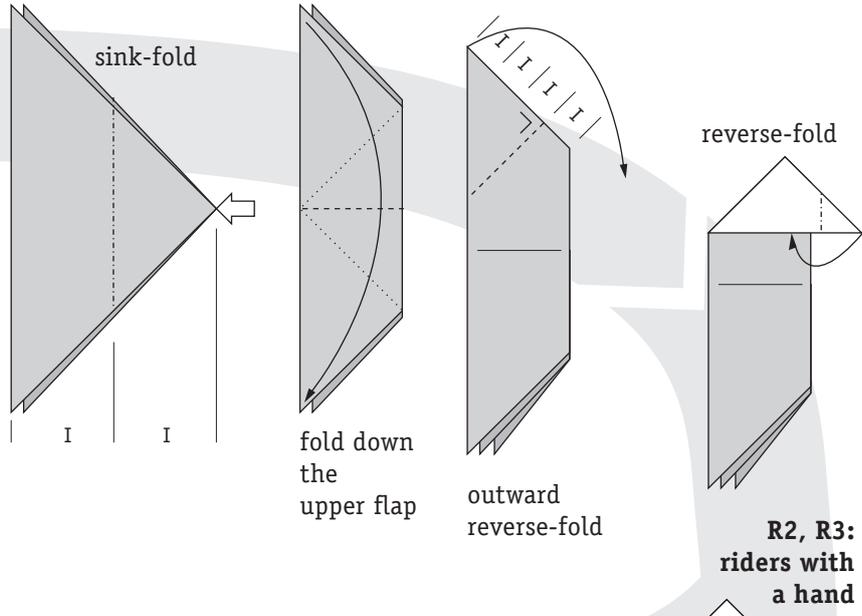
The Bavarian chevauxlegers had the right to wear moustaches. The rest of the Bavarian army was allowed to do so in 1811, the officers only in 1826.



Rider R1, R2 and R3: chevauxlegers

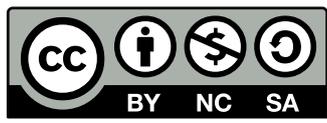
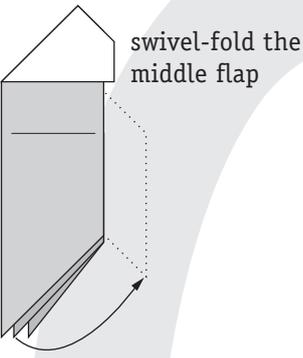


- size: 7,5x7,5 cm
- colored side down
- collapse to a waterbomb base

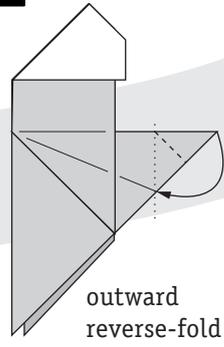
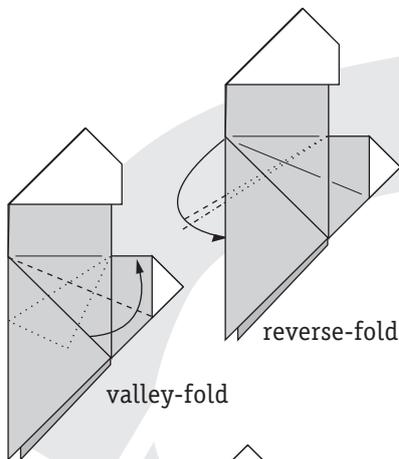
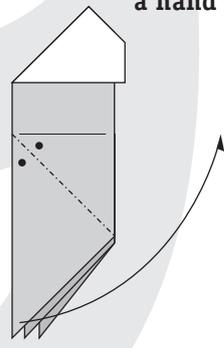


R2, R3: riders with a hand

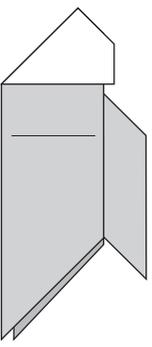
R1: rider without a hand



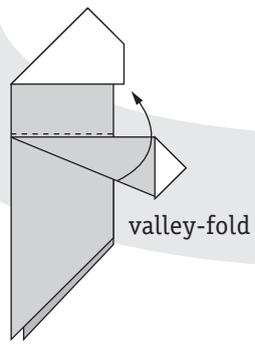
mountain-fold the upper flap



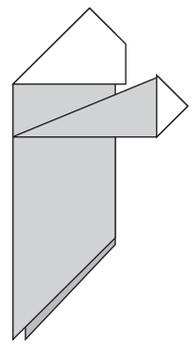
fold and unfold



R1: rider without a hand

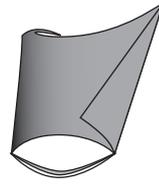


R2: rider's hand in middle position

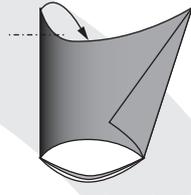


R3: rider's hand in high position

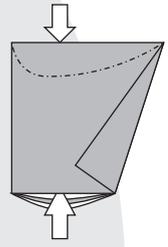
# Chevauxleger "Tschako" Ch1 and chevauxleger officer "Tschako" Ch2



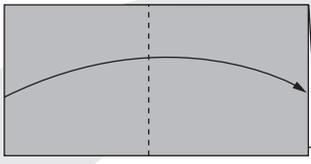
**chevauxleger  
"Tschako" Ch1**



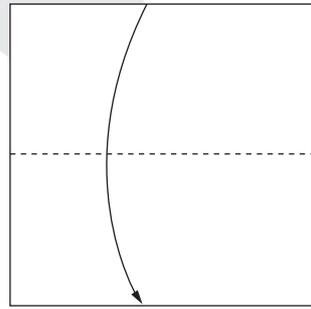
fold the tip down



open the base after  
the first layer and  
curve the hat  
3-dimensional

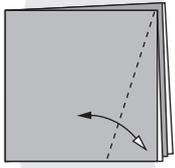
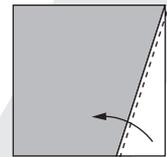


valley-fold

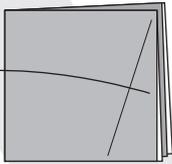


- size: 4,4x4,4 cm
- colored side down
- valley-fold

valley-fold



fold and unfold with  
all layers



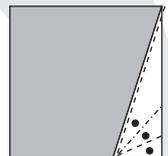
unfold



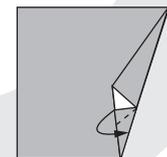
fold in half and tuck  
the corner into the pocket



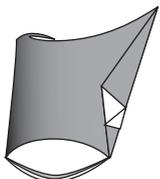
fold to the inner



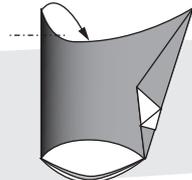
pleat-fold



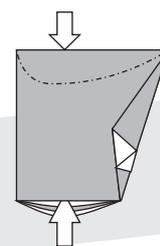
valley-fold



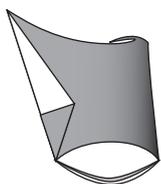
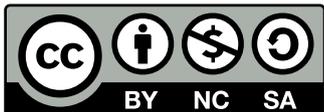
**chevauxleger officer  
"Tschako" Ch2**



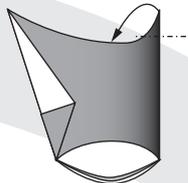
fold the tip down



open the base after  
the first layer and  
curve the hat  
3-dimensional

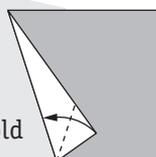
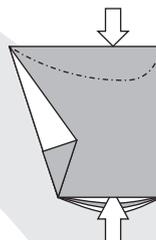


finished "Tschako" Ch3

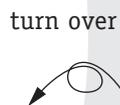


fold the tip down

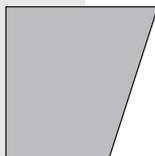
open the base after the first layer and curve the hat 3-dimensional



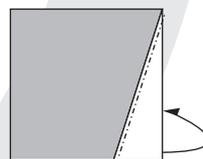
valley-fold



turn over



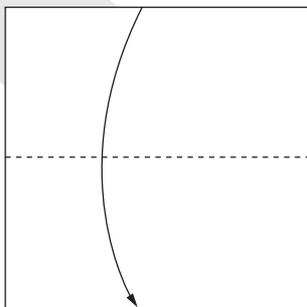
fold behind



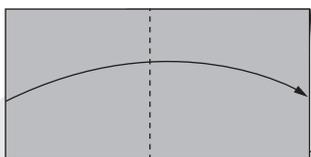
fold in half and tuck the corner into the pocket



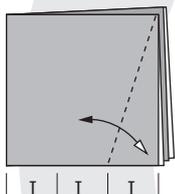
fold to the inner



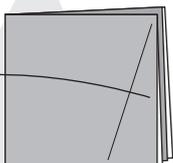
- size: 4,4x4,4 cm
- colored side down
- valley-fold



valley-fold



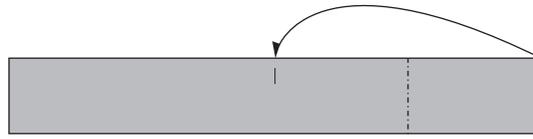
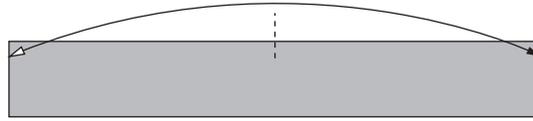
fold and unfold with all layers



unfold

**Chevauxleger  
officer's sabre S1**

- size: 1x7 cm
- color face up
- mark the half



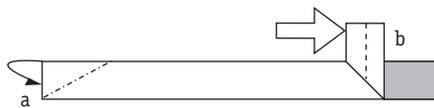
fold behind | I | I |



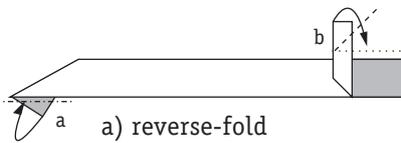
fold down



outward reverse-fold the outer layer



- a) reverse-fold
- b) open sink



- a) reverse-fold
- b) outward reverse-fold



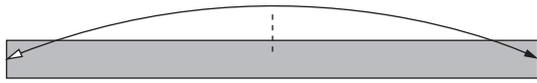
valley-fold, repeat behind



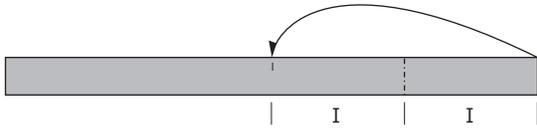
finished sabre S1



### Chevauxleger's sabre S2



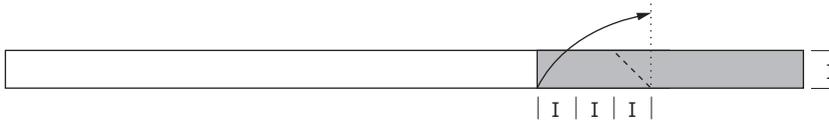
- size: 0,5x7 cm
- color face up
- mark the half



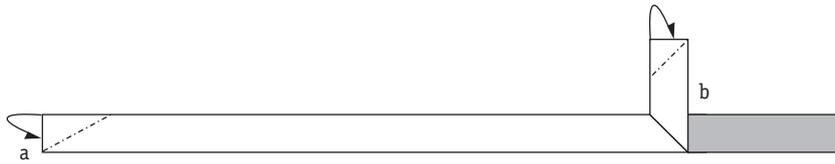
fold behind



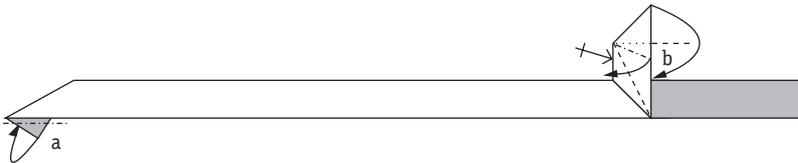
fold down



outward reverse-fold  
the outer layer



- a) reverse-fold
- b) reverse-fold



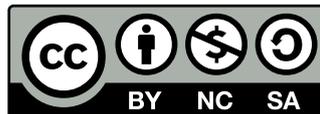
- a) reverse-fold
- b) swivel-fold, repeat behind



valley-fold, repeat behind



finished sabre S2



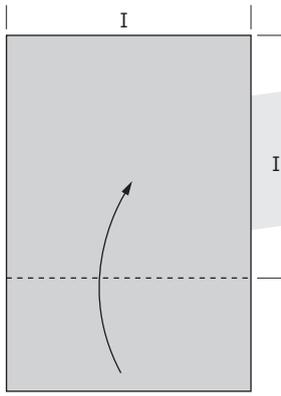
# Ulan

In the 16th and 17th century the main part of the Polish cavalry consisted of lancers, called ulans. On each lancehead there fluttered a split banneret. A ulan's armament was complemented by a light-weight saber and a couple of pistols. Starting with the 18th century, ulan regiments were assembled in many European armies. There they were used as fast reconnaissance and raiding patrols. The typical headgear for a ulan is the square cap ("Czapka").

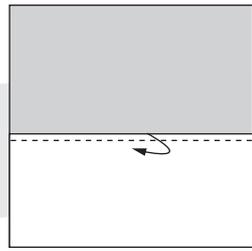
In France ulan regiments were formed up only in the beginning of the 19th century when – in the battle of Wagram – Napoleon was convinced by his chevauxlegers of the usefulness of lances, namely Napoleon's chevauxlegers used the lances taken in battle from the Austrians against the Austrians.



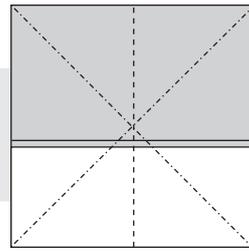
Rider R8 and R9: ulans



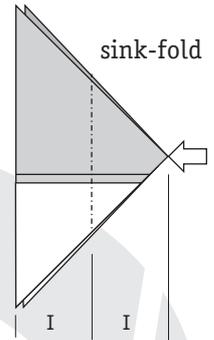
- size: 7,5x11 cm
- colored side up
- valley-fold



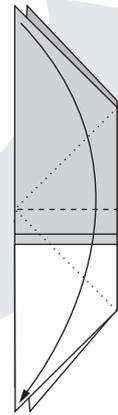
valley-fold near the edge



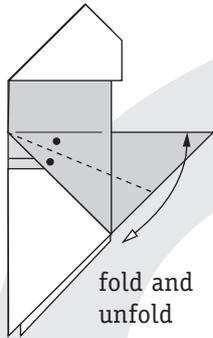
collapse to a waterbomb base



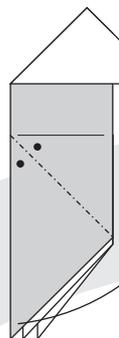
sink-fold



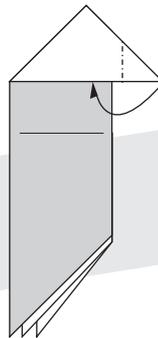
fold down the upper flap



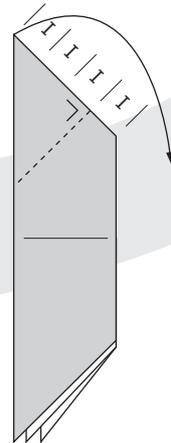
fold and unfold



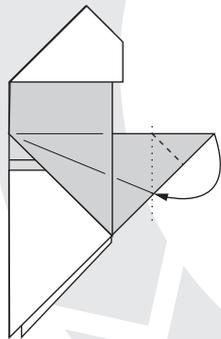
mountain-fold the upper flap



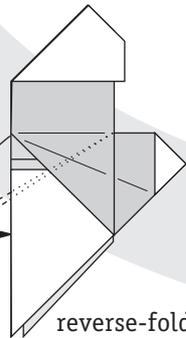
reverse-fold



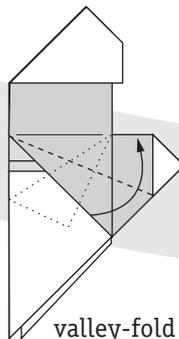
outward reverse-fold



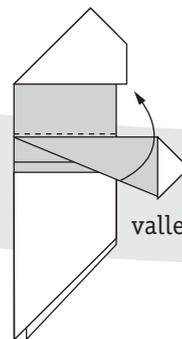
outward reverse-fold



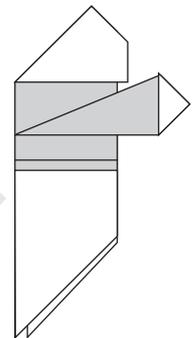
reverse-fold



valley-fold



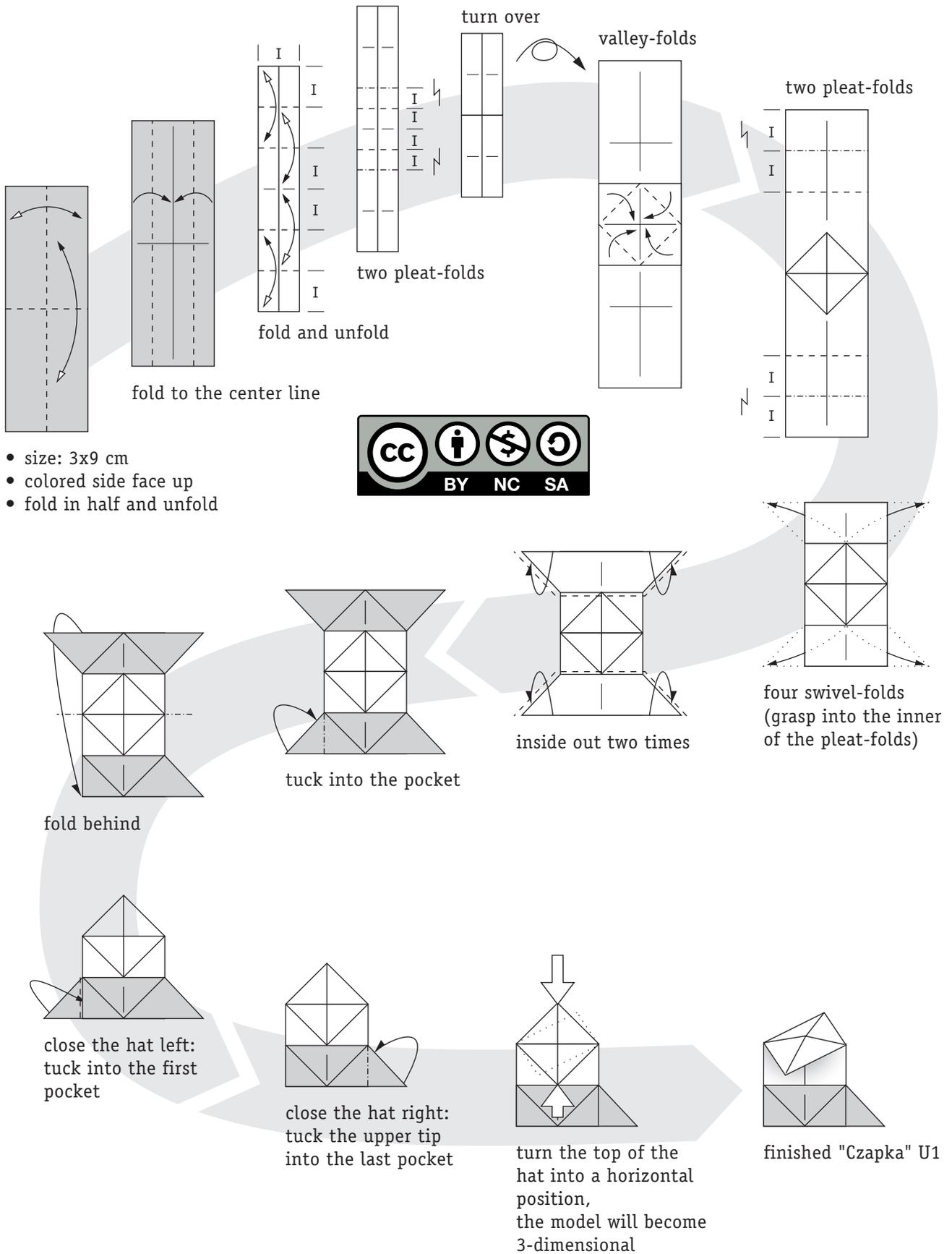
valley-fold



R8: rider's hand in middle position

R9: rider's hand in high position

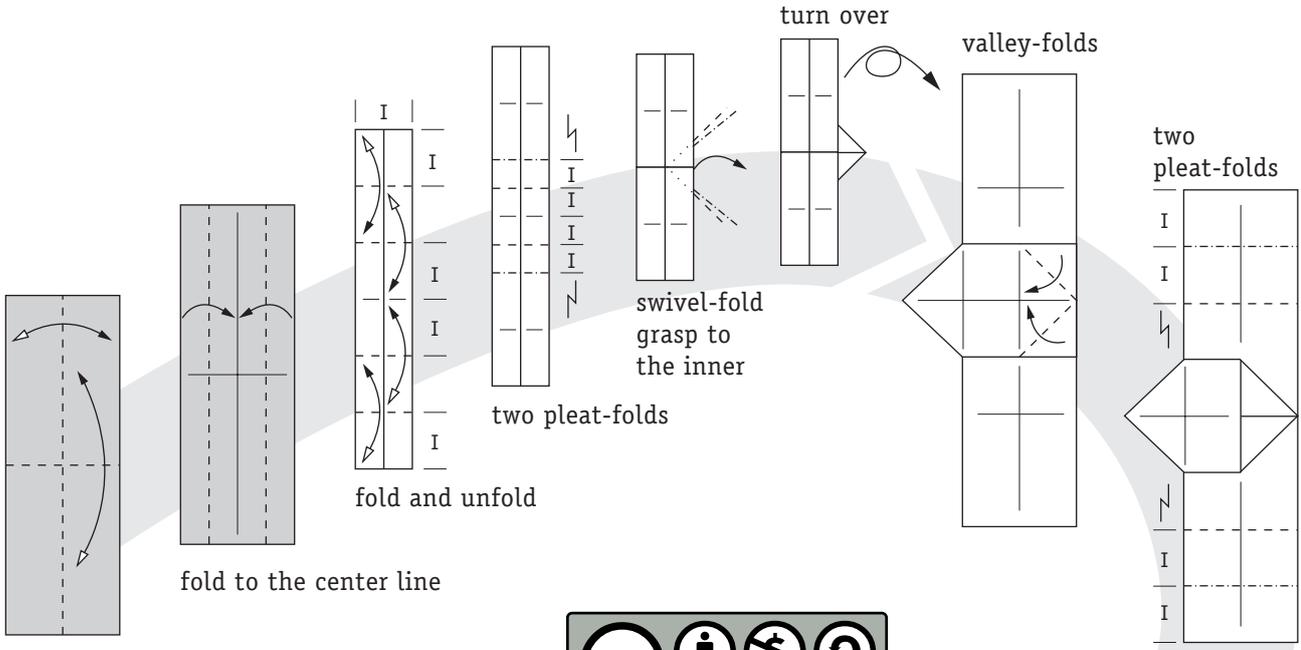
Ulan's "Czapka" U1



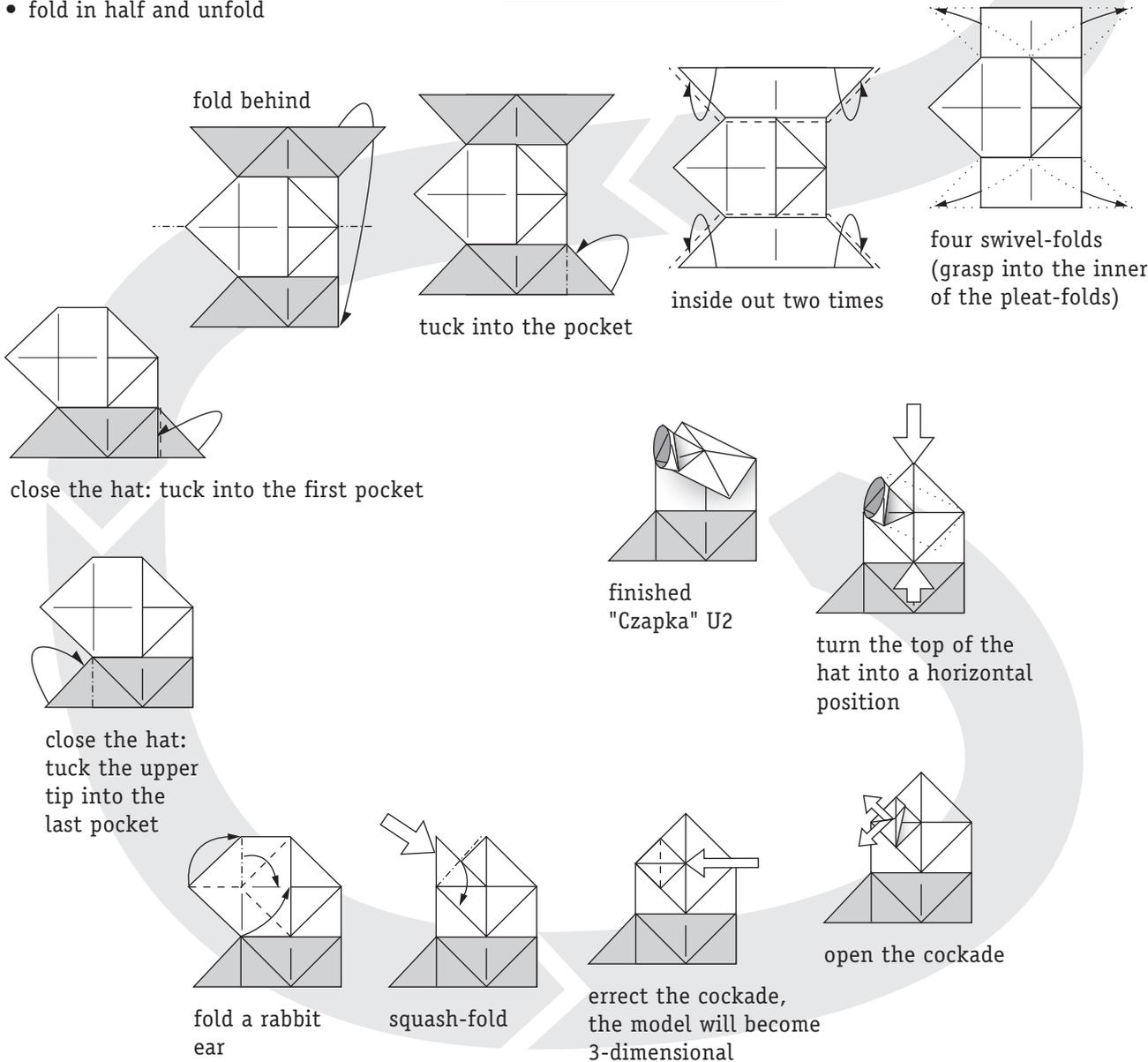
- size: 3x9 cm
- colored side face up
- fold in half and unfold



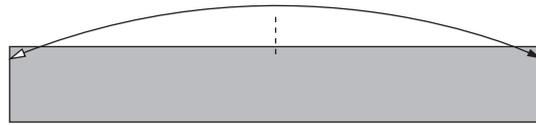
Ulan officer's "Czapka" U2



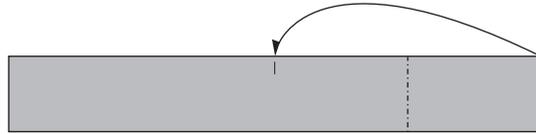
- size: 3x9 cm
- colored side face up
- fold in half and unfold



**Ulan officer's sabre S3**



- size: 1x7 cm
- color face up
- mark the half



fold behind | I | I |



fold down



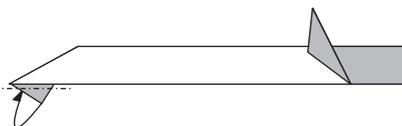
outward reverse-fold the outer layer



- reverse-fold
- valley-fold, repeat behind



fold to the inner, repeat behind

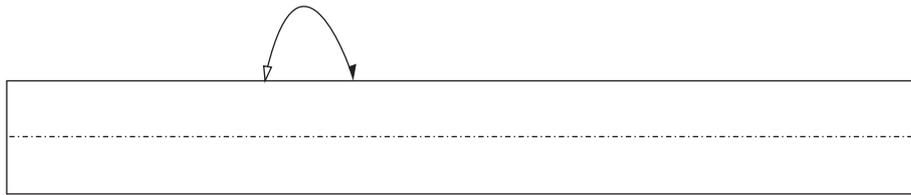


reverse-fold

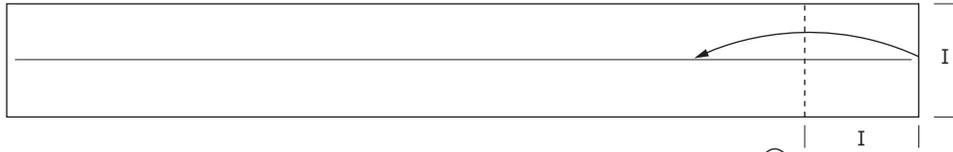


finished sabre S3

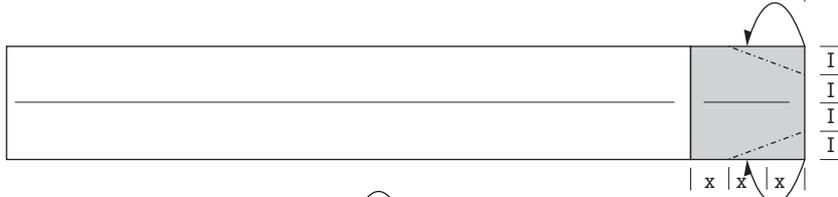
### Ulan's lance with a pennant



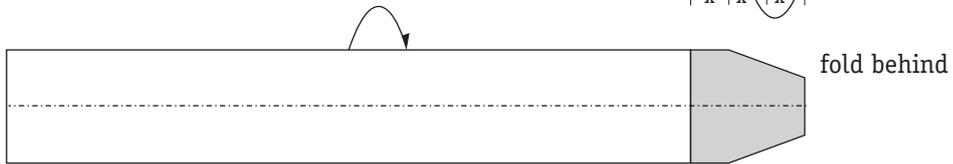
- size: 1,5x12 cm
- color face down
- fold and unfold



valley-fold



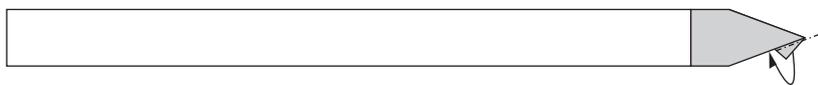
fold behind two times



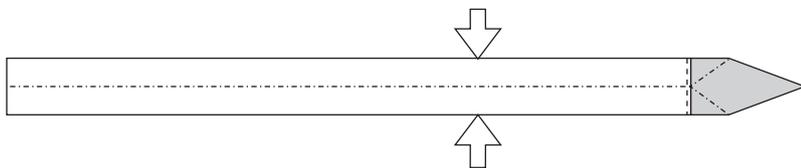
fold behind



reverse-fold



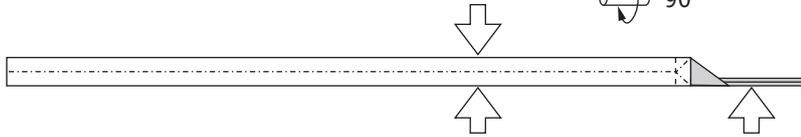
lock the tip by folding into the pocket



pinch a rabbit ear



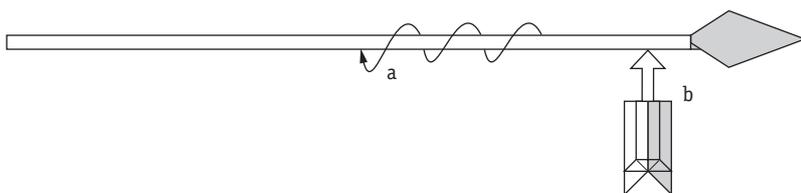
rotate vertically, top view follows



pinch a rabbit ear



rotate vertically



- roll up to a cylinder
- glue the pennant onto the lance



that's it

# Dragoons

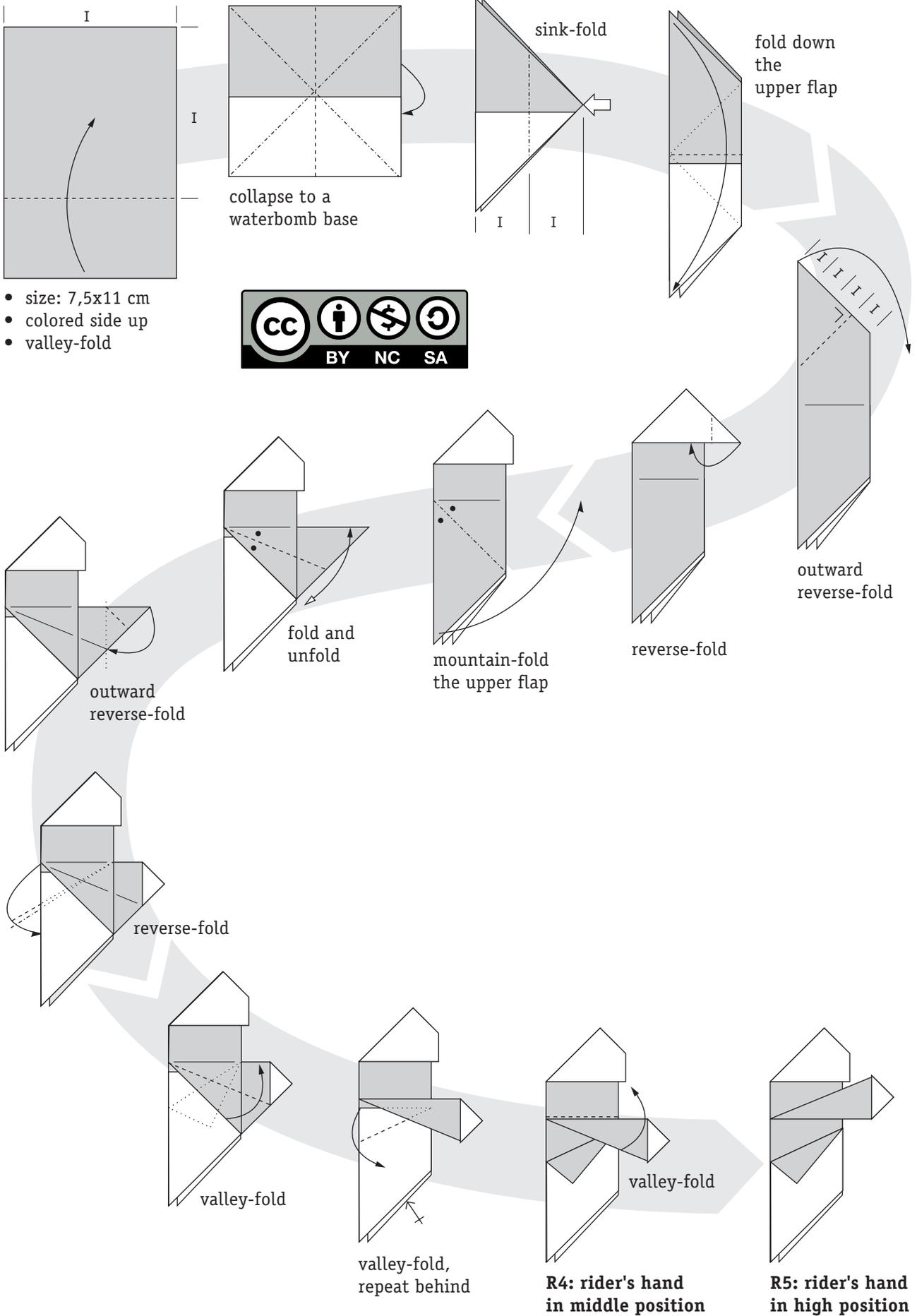
Dragoons evolved from an infantry that was equipped with muskets as well as with horses in order to be more maneuverable in a gun battle. Besides the musket a dragoon also had a heavy saber and a couple of pistols. Excellent skilled dragoons were trained to do battle with and without a horse and were proficient in throwing hand grenades.

Dragoons and cuirassiers are so similar in armament and equipment that a differentiation is not possible with the simple Origami figures introduced here. Therefore, I refrained from designing an Origami cuirassier. Unlike the dragoon a cuirassier wore a cuirass that – since the beginning of the 18th century – consisted only of a chest corslet. Before that a cuirass consisted of a chest and back corslet with an inserted steel collar as well vambraces and jambarts.

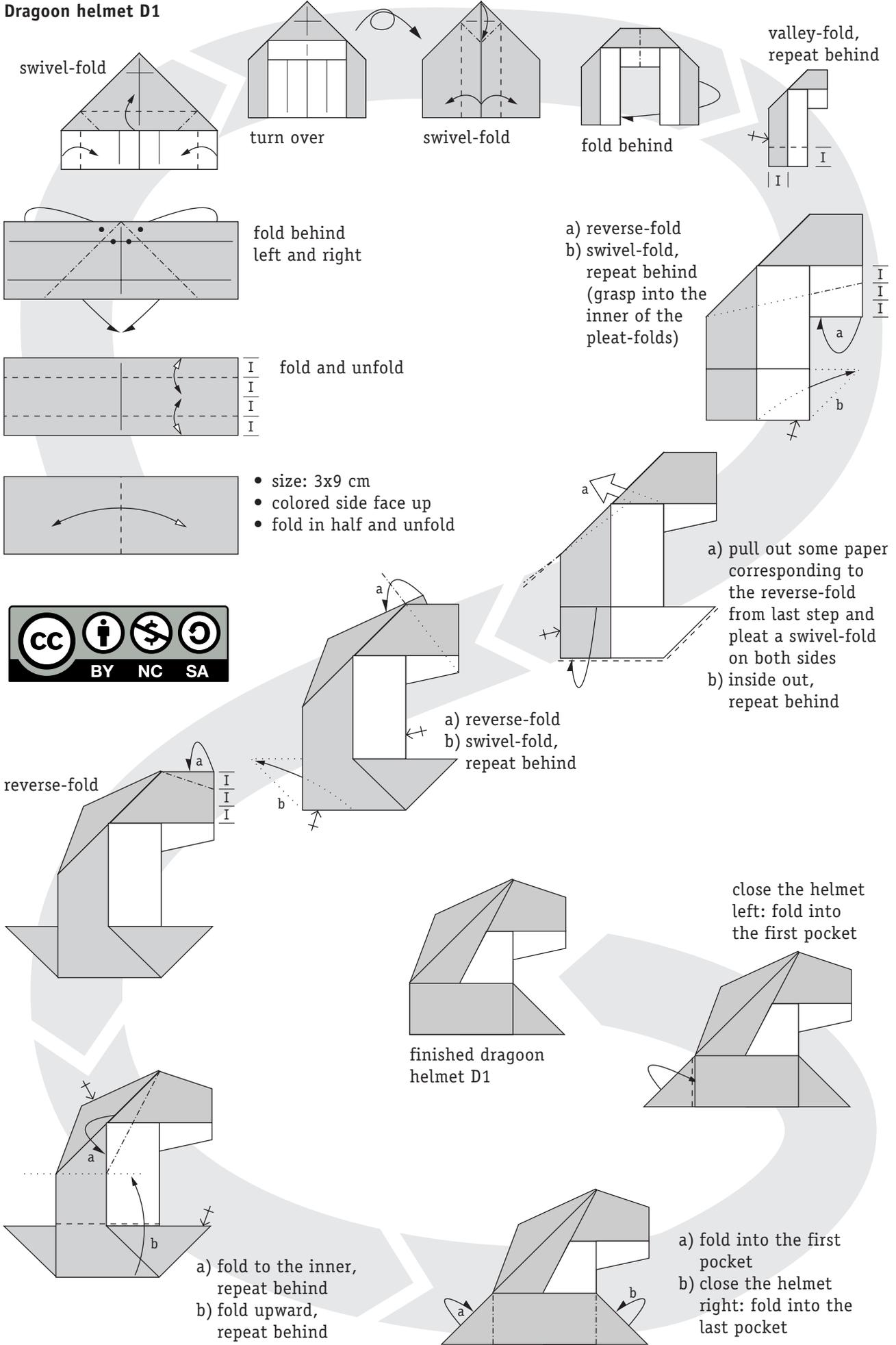
# General Staff



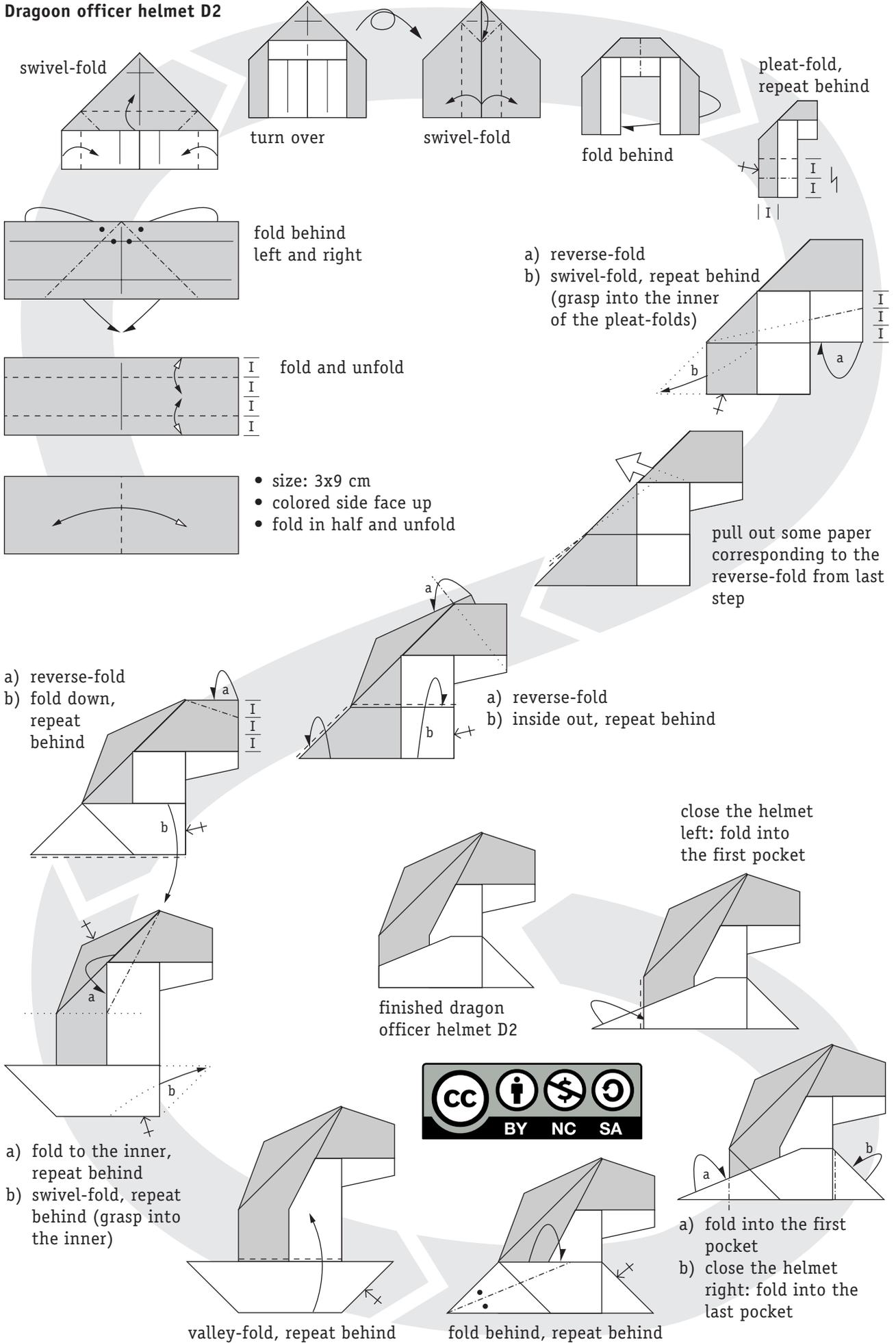
Rider R4 and R5: dragons and generals



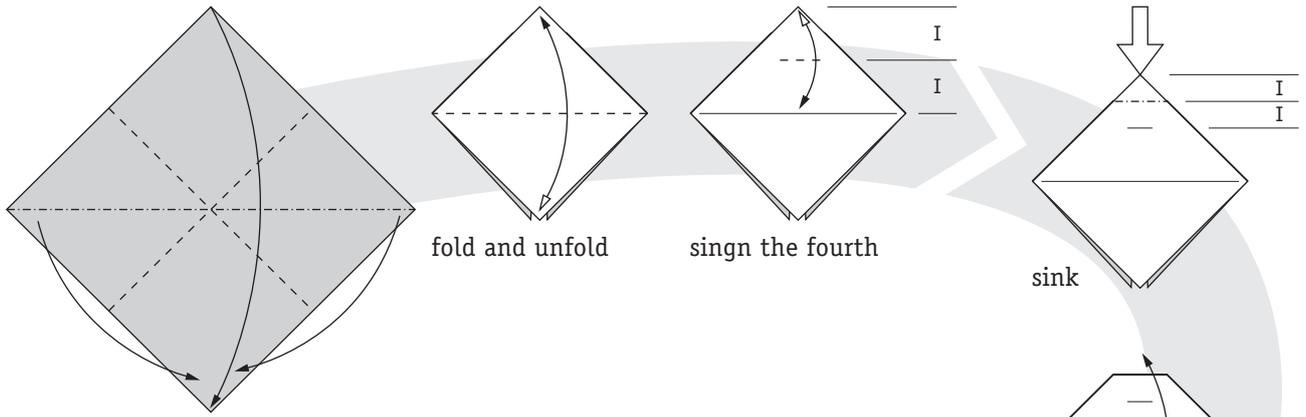
**Dragoon helmet D1**



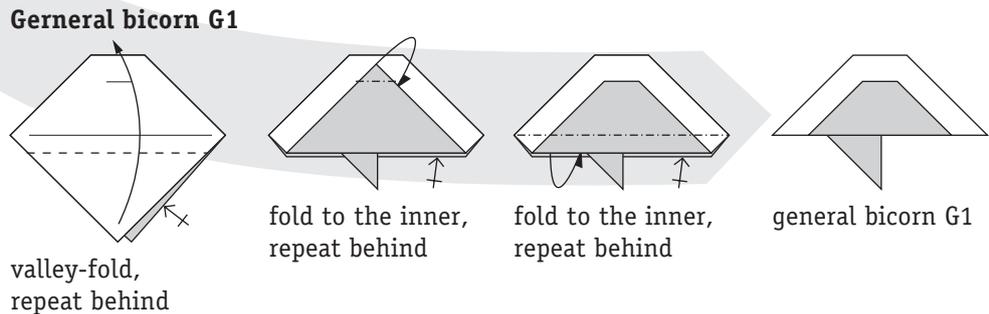
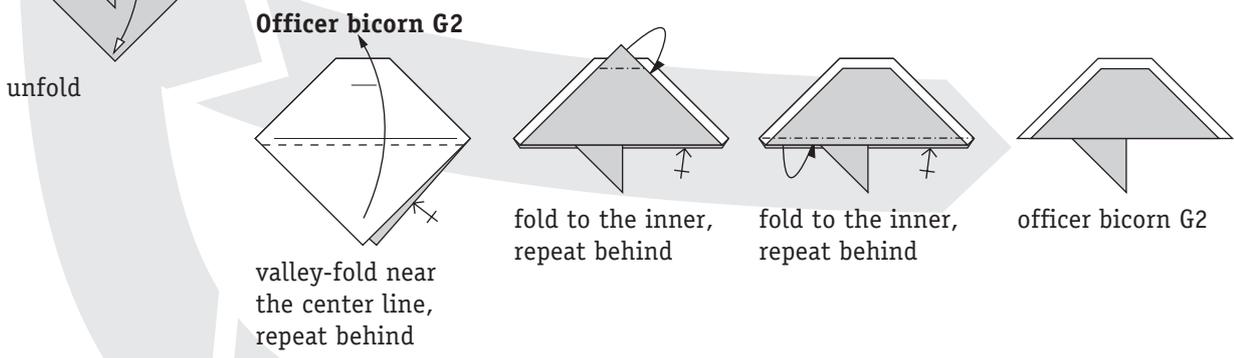
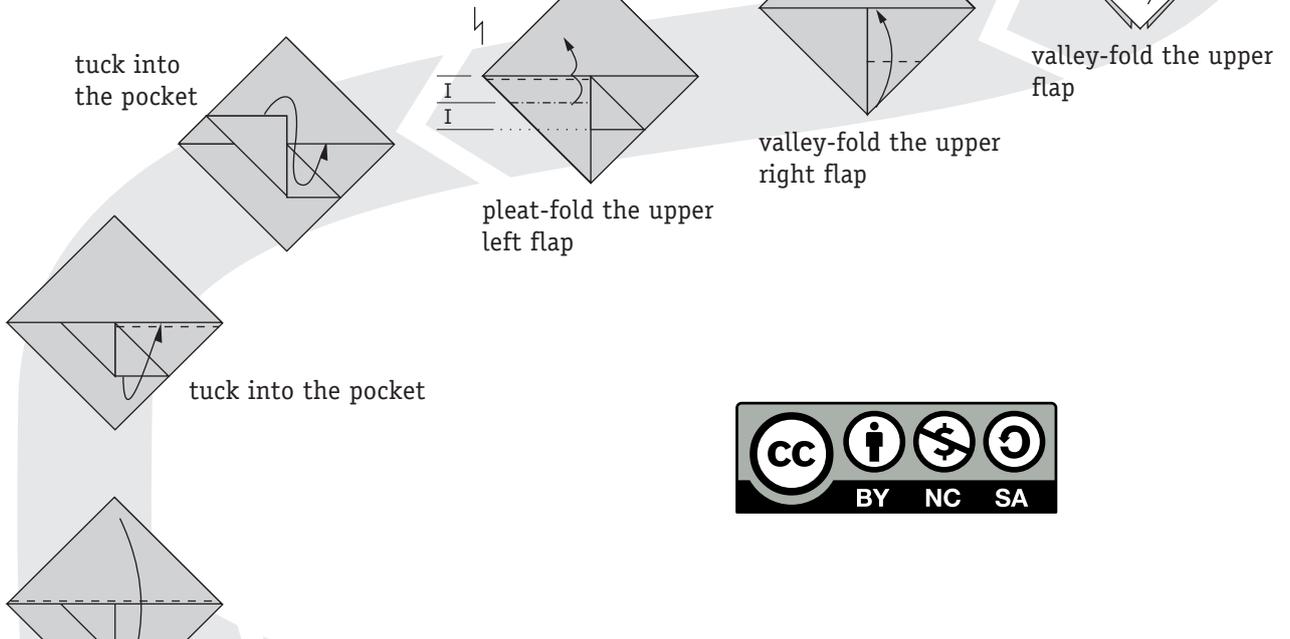
### Dragon officer helmet D2



**General cocked hat G1 and officer cocked hat G2**

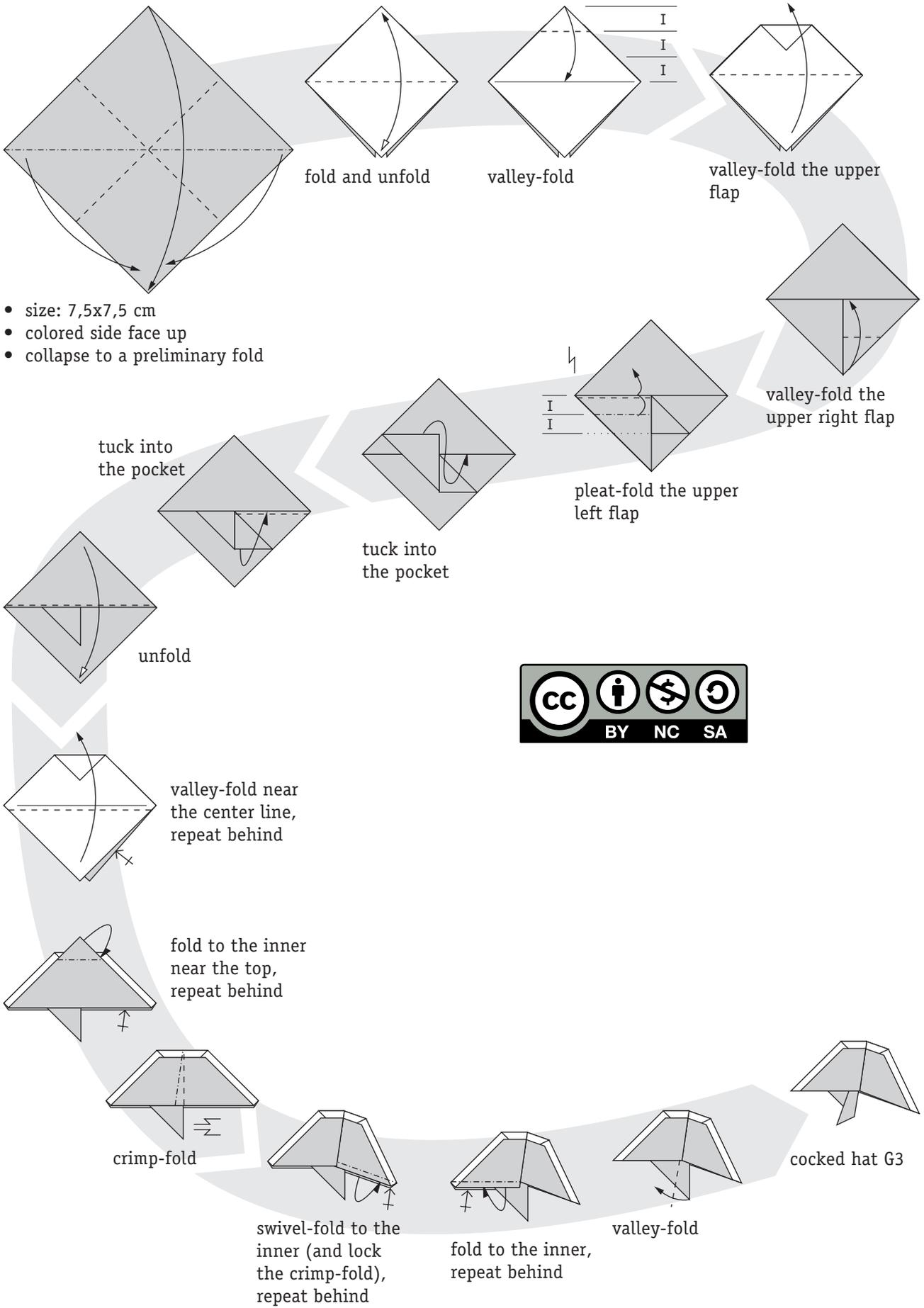


- size: 7,5x7,5 cm
- colored side face up
- collapse to a preliminary fold



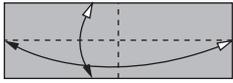
### Cocked hat G3

- size: 7,5x7,5 cm
- colored side face up
- collapse to a preliminary fold

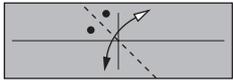


### Dragoon's pistol and dragon officer's sabre

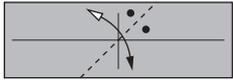
#### Pistol



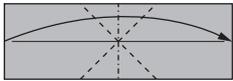
- size: 1x3 cm
- color face up
- fold and unfold



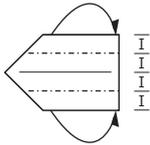
fold and unfold



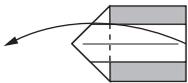
fold and unfold



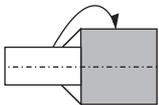
collapse to a waterbomb base



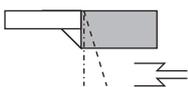
fold to the inner



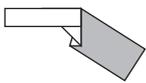
fold to the left



fold in half



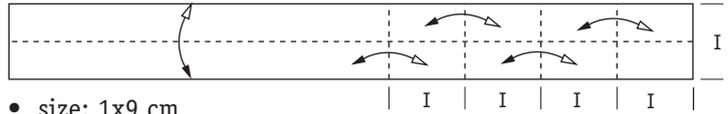
crimp-fold



finished pistol



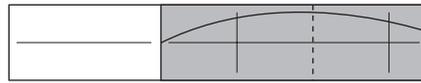
#### Sabre S4



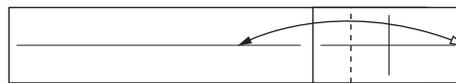
- size: 1x9 cm
- colored side down
- fold and unfold



valley-fold



valley-fold



fold and unfold the upper layer



reverse-fold



valley-fold



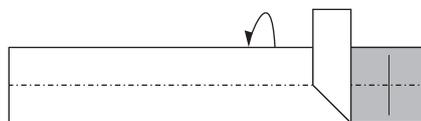
valley-fold



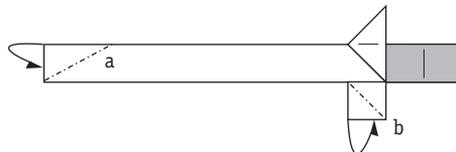
fold and unfold



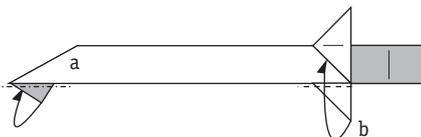
swivel-fold



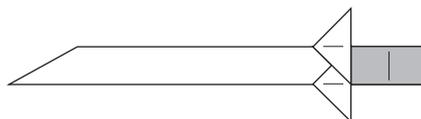
fold behind



a, b) reverse-folds

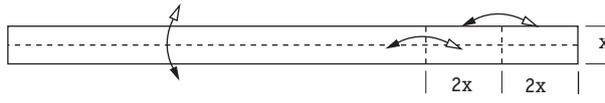


a) reverse-fold  
b) tuck the upper layer into the pocket

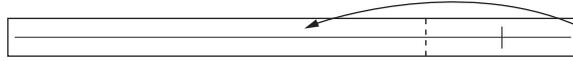


finished sabre S4

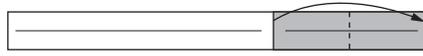
Dragoon's sabre S5



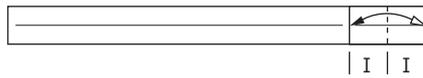
- size: 0,5x7,5 cm
- colored side down
- fold and unfold



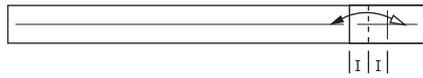
valley-fold



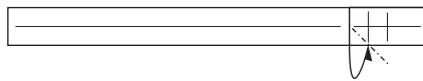
valley-fold



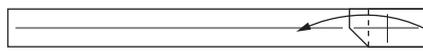
fold and unfold the upper layer



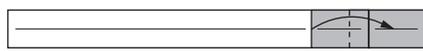
fold and unfold the upper layer



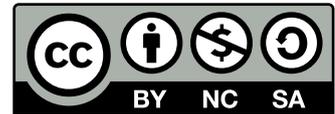
reverse-fold



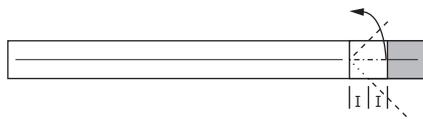
valley-fold



valley-fold



fold and unfold



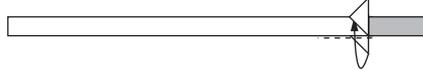
swivel-fold



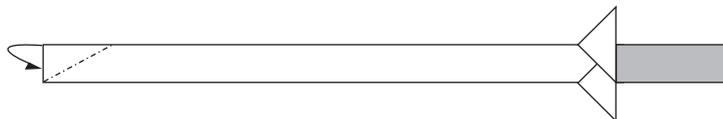
fold behind



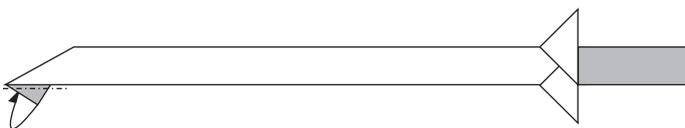
reverse-fold



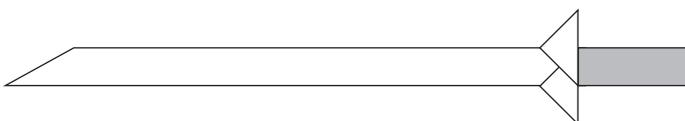
tuck the upper layer into the pocket



reverse-fold

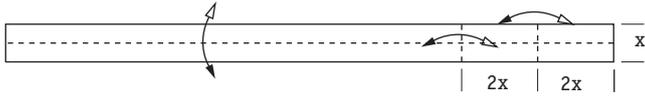


reverse-fold

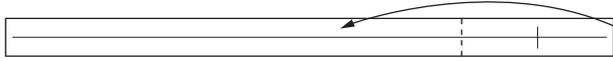


finished sabre S5

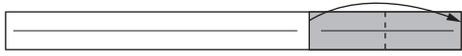
# General's épée



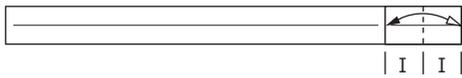
- size: 0,5x7,5 cm
- colored side down
- fold and unfold



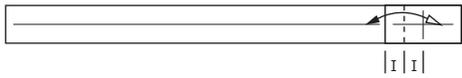
valley-fold



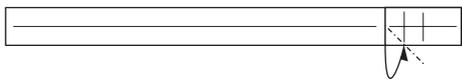
valley-fold



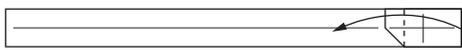
fold and unfold the upper layer



fold and unfold the upper layer



reverse-fold



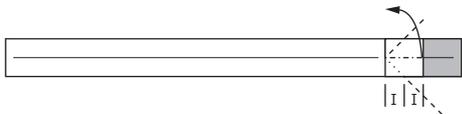
valley-fold



valley-fold



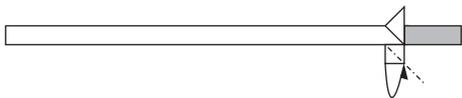
fold and unfold



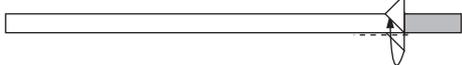
swivel-fold



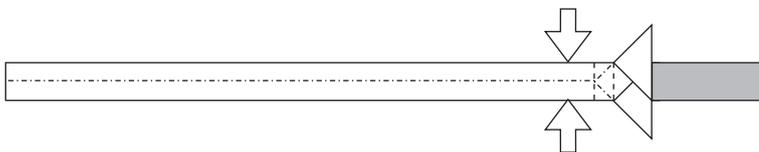
fold behind



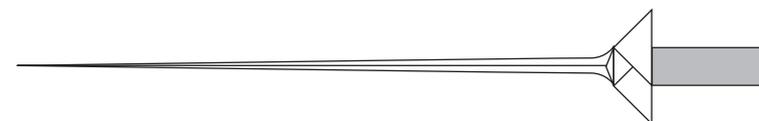
reverse-fold



tuck the upper layer into the pocket

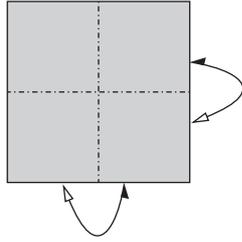


pinch a rabbit ear, the model will become 3-dimensional

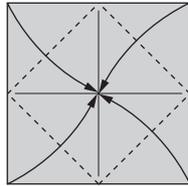


finished épée

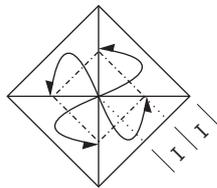
**Medal M1**



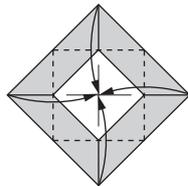
- size: 1x1 cm
- gold to the front, silver to the back
- fold and unfold



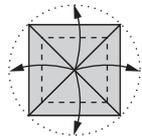
fold to the center four times



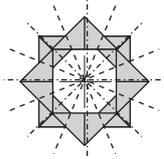
fold to the inner four times



fold to the center four times



fold the four tips to the guided circle



curve the medal as shown in the next figure,  
the model will become 3-dimensional



like this



# Hussars

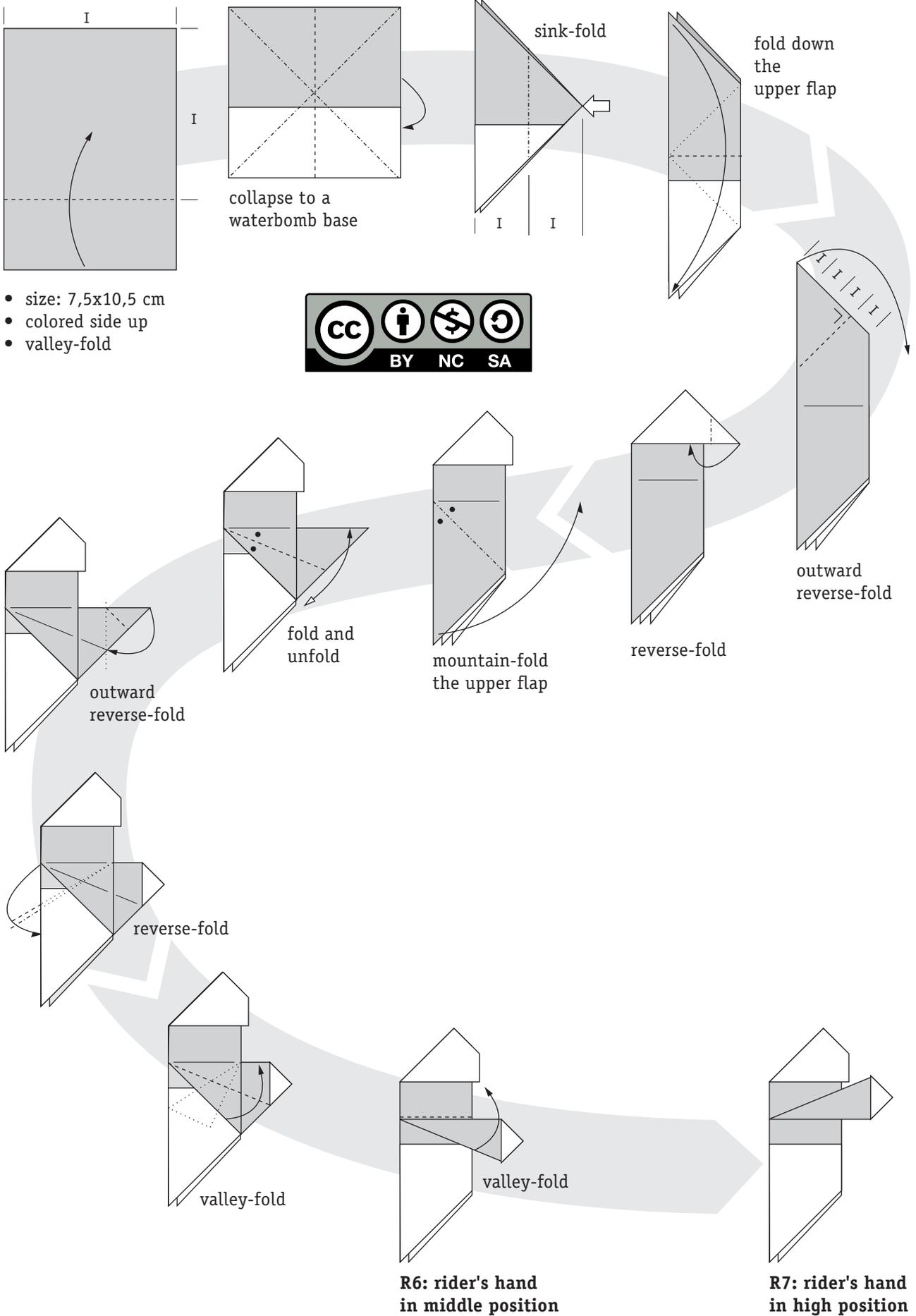
“Hussar” derives from the Latin word “cursor”, meaning “messenger”.

Hungarian hussars evolved from mounted bandits of the Balkans in the 14th century. In the 16th century they were – for the first time – formed up in an army and the end of the 17th century found their way into the armies of all European countries. Hussars are equipped with a light-weight saber and a couple of pistols.

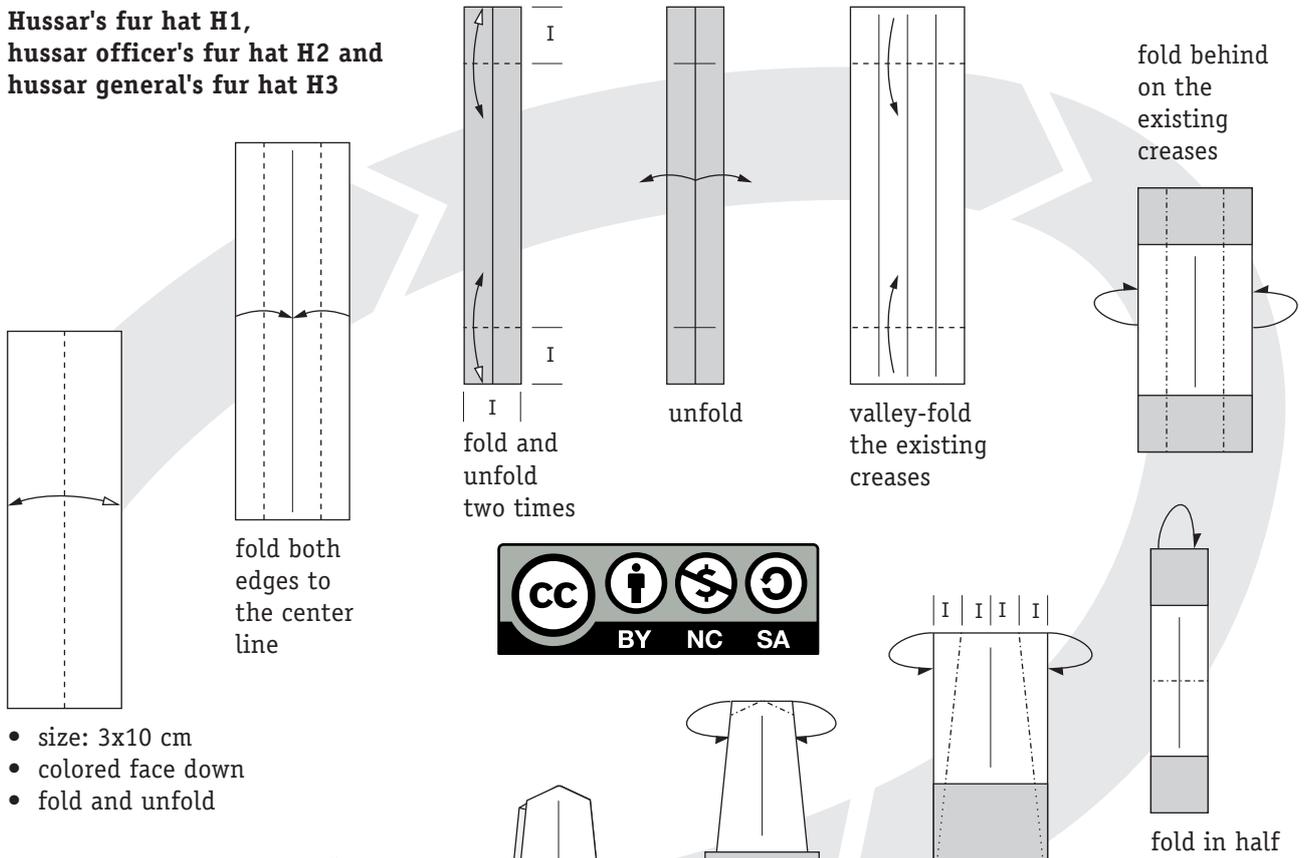
A hussar’s main tasks are the spotting of the enemy, assaulting the enemy’s supply troops, agitating the enemy’s marching columns by attacking them, and – not to forget – courier services. Assaults and attacks were conducted with small units of up to 150 mounted hussars. Even with the lower ranks, observation of the enemy and courier services required a high level of independence, decisiveness, and cleverness.



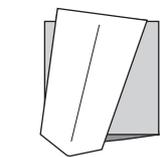
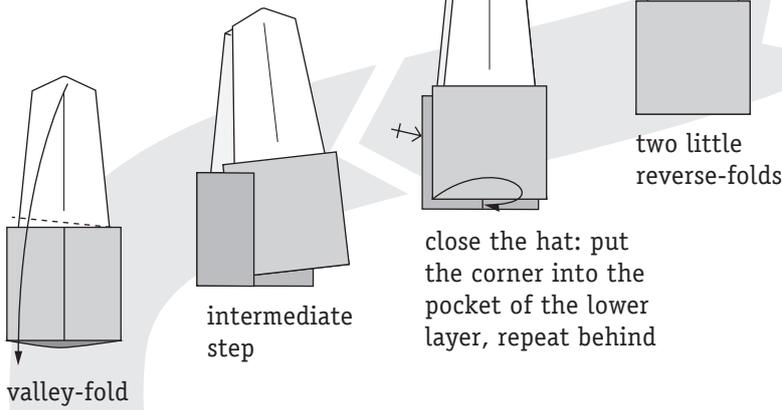
Rider R6 and R7: hussars



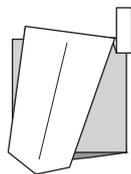
**Hussar's fur hat H1,  
hussar officer's fur hat H2 and  
hussar general's fur hat H3**



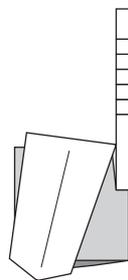
- size: 3x10 cm
- colored face down
- fold and unfold



**Hussar's fur hat H1**

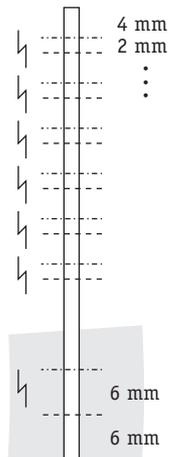


**Officer's fur hat H2**



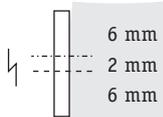
**General's fur hat H3**

**General's cockade**

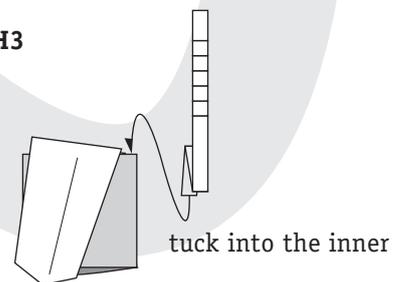
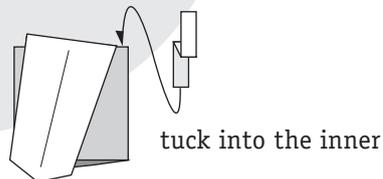


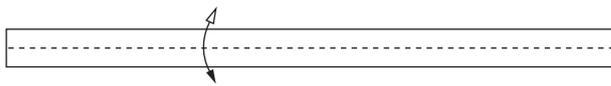
- size: 0,2x6 cm
- 7 pleat-folds

**Officer's cockade**

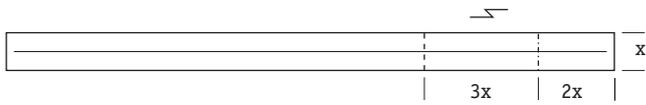


- size: 0,2x1,4 cm
- pleat-fold





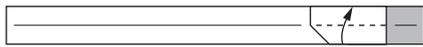
- metal foil with the size: 0,5x8 cm
- colored side down
- fold and unfold



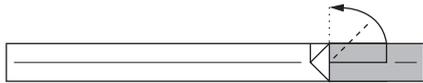
pleat-fold



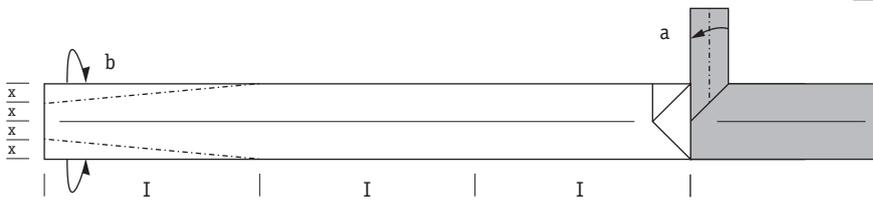
reverse-fold



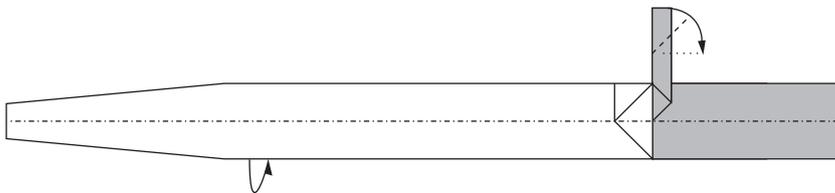
valley-fold the upper layer



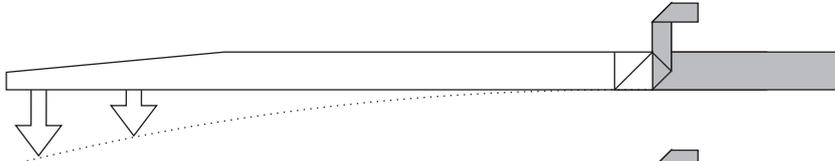
valley-fold



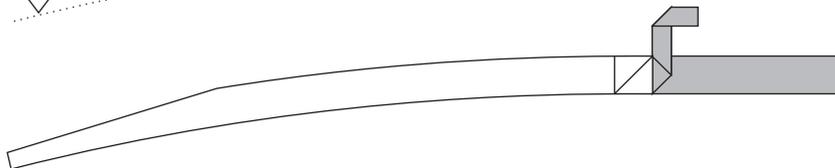
- a) valley-fold
- b) fold behind



- a) valley-fold
- b) fold behind but don't sharp the edge(!)



curve the sabre in stretching it on his edge (the metal foil will tolerate that)



finished sabre S6

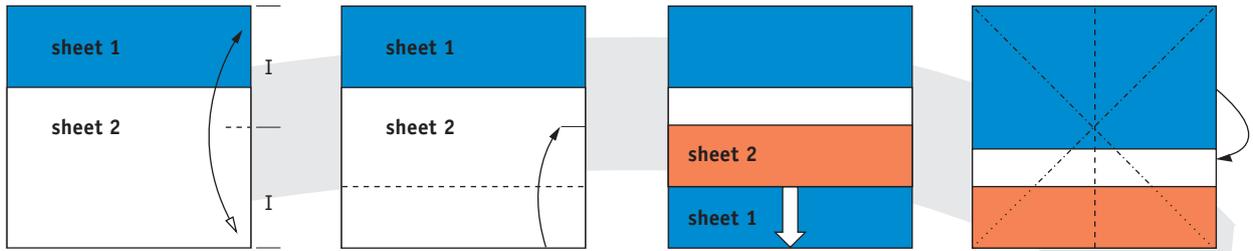
# Grenadiers

Within the infantry of the 17th and 18th century the grenadiers' special task was to throw hand grenades. For this the strongest, most skillful and often also the tallest recruits were selected and trained. Their armament consisted – besides a shoulder bag full of hand grenades – of a rifle with a bayonet and a saber. In order not to be hindered by their own soldiers when throwing the grenades, grenadiers wore towering, narrow caps, often with a pompon or tassel, that had to be kept in place by a chin strap. Later on grenadier caps became status symbols and had ornated metal plates or chiseled metal emblems or even fur trimming.

Grenadiers were considered the military elite and were often given especially dangerous tasks or were sent into battle only at a crucial point in the battle. The personal guards of the Prussian “Soldier King” were grenadiers that were called “Potsdam Giants” or “Giant Guards of Potsdam” (in German: „Potsdamer Riesengarde”). However, the Prussian population nicknamed them „Lange Kerls” (“long guys”). Every one of them had to be at least 6 feet tall, i.e., 188.3 cm (1 Prussian foot = 313.85 mm).



Rider R12 and R13: grenadiers

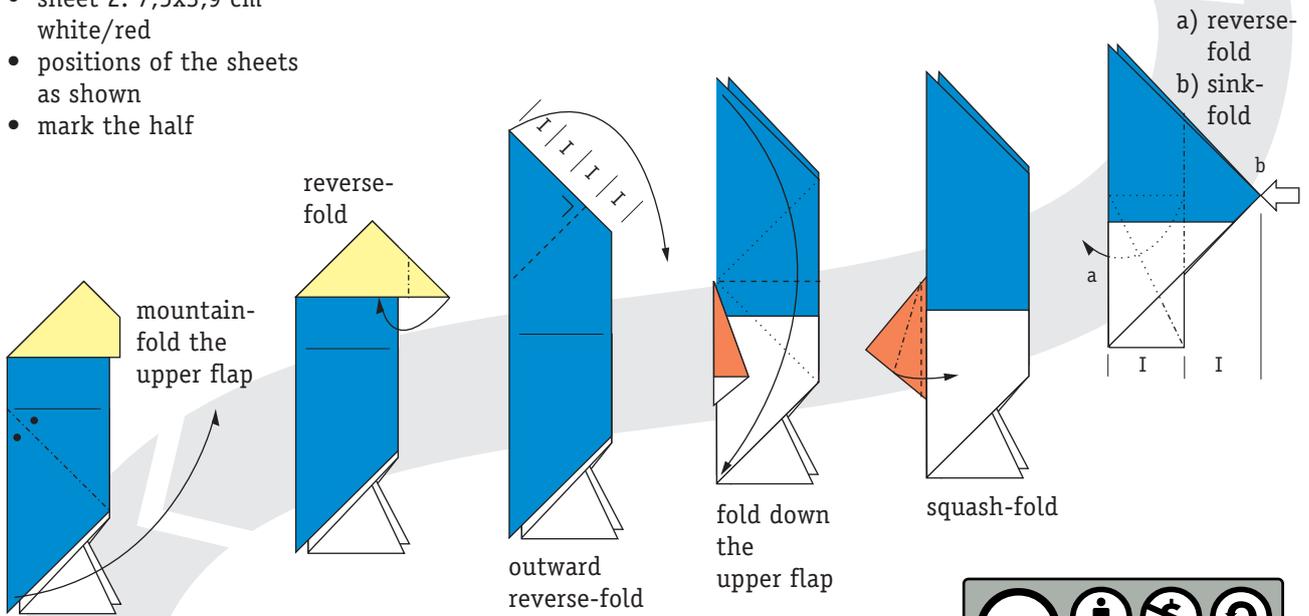


- sheet 1: 7,5x7,5 cm pale yellow/blue
- sheet 2: 7,5x3,9 cm white/red
- positions of the sheets as shown
- mark the half

fold sheet 2 to the mark

bring sheet 2 to the lower edge of sheet 1

collapse to a waterbomb base



mountain-fold the upper flap

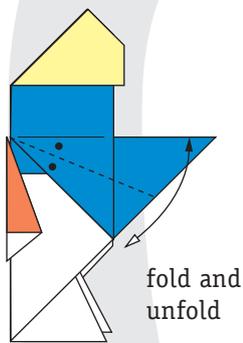
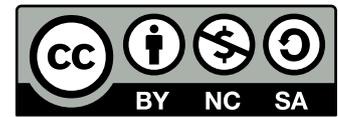
reverse-fold

outward reverse-fold

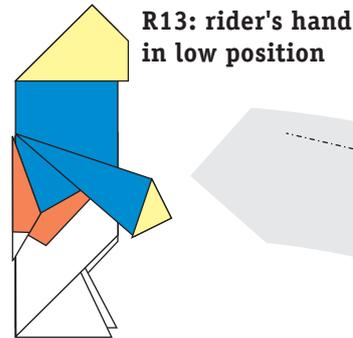
fold down the upper flap

squash-fold

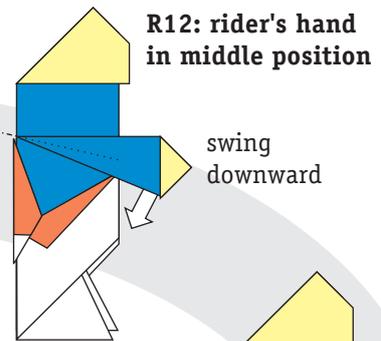
a) reverse-fold  
b) sink-fold



fold and unfold

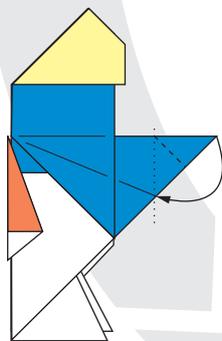


R13: rider's hand in low position

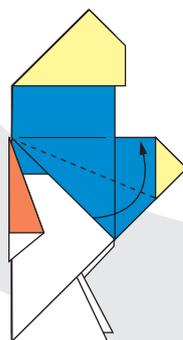


R12: rider's hand in middle position

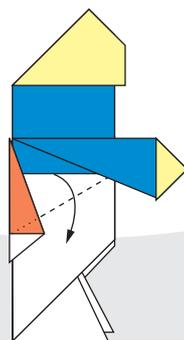
swing downward



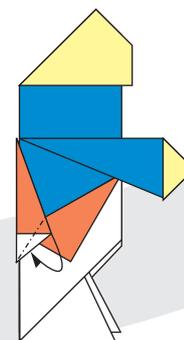
outward reverse-fold



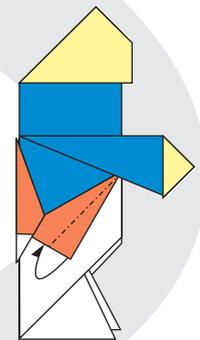
valley-fold



valley-fold

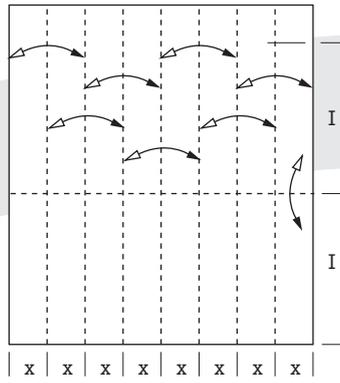
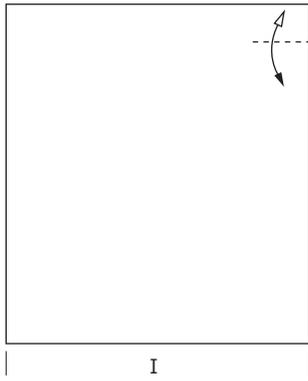


fold to the inner

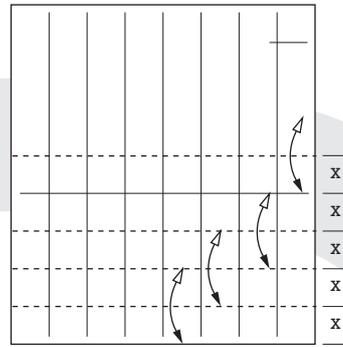


fold to the inner

Grenadier cap GC1



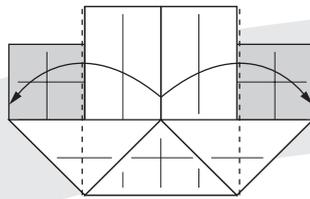
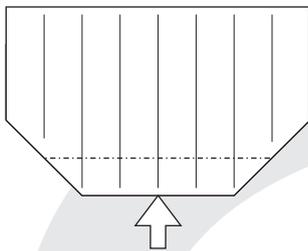
fold and unfold eight times



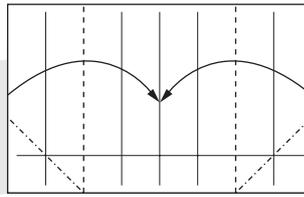
fold and unfold four times

- size: 6x6,75 cm
- colored side down
- fold a mark only

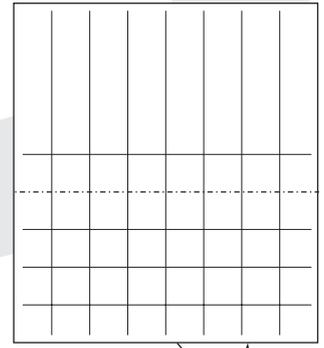
sink-fold



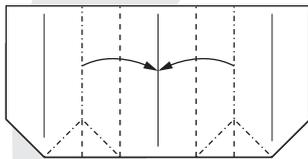
valley-fold left and right



squash-fold left and right

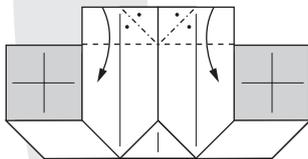
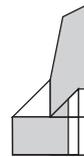


fold behind



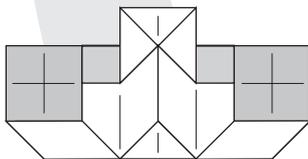
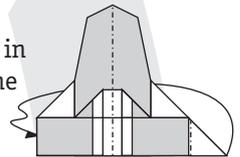
squash-fold left and right

finished  
grenadier  
cap GC1



squash-fold left and right

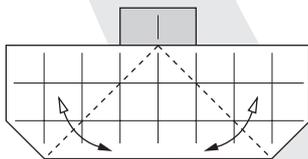
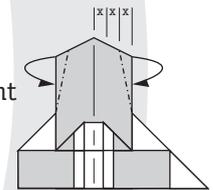
fold the helmet  
in half and tuck the  
little triangle  
into the pocket



turn over

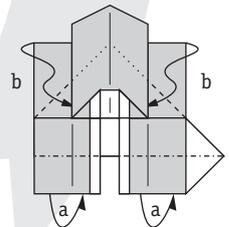


fold behind  
left and right

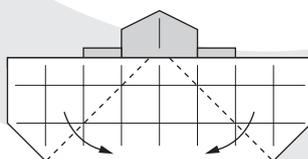


valley-fold the upper layer  
on both sides and unfold

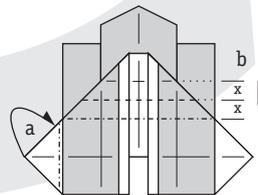
left and right:  
a) fold behind  
b) tuck into  
the pocket



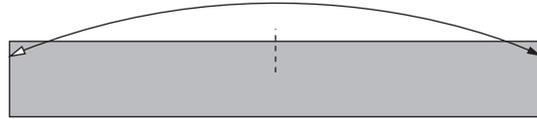
- a) fold behind left and right  
b) fold the upper layer behind



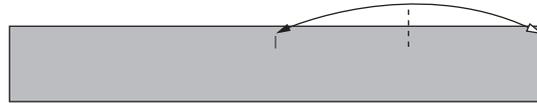
valley-fold on existing creases



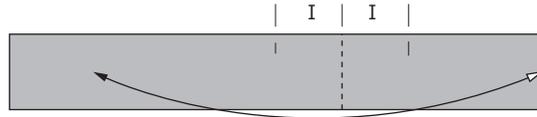
- a) fold behind  
b) pleat-fold into  
the pocket



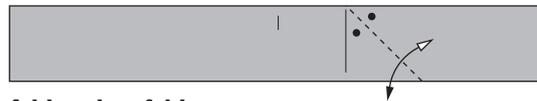
- size: 1x7 cm
- color face up
- mark the half



mark the fourth right



fold and unfold



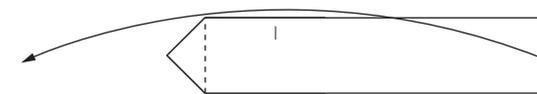
fold and unfold



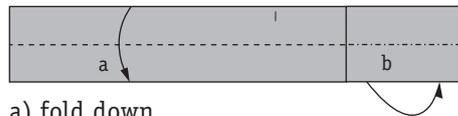
fold and unfold



collapse to a waterbomb base



fold to the left



- a) fold down
- b) fold behind



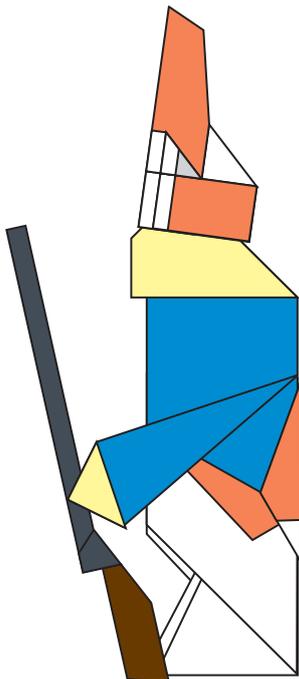
a, b) fold to the inner, repeat behind



reverse-fold



finished gun



# Music Corps with Moors

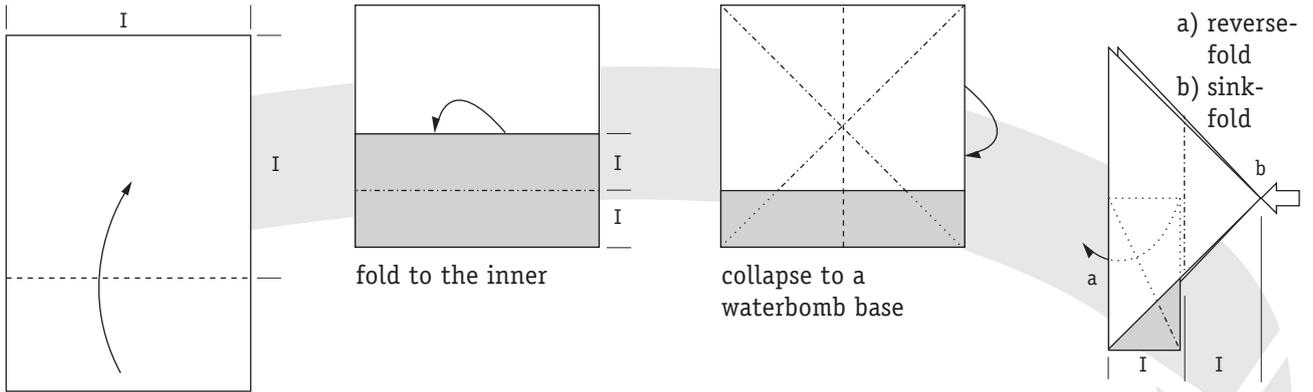
In the 18th century black military musicians or servants were considered a status symbol with European monarchs. Compared to the following centuries Africans in Europe, in the Age of Enlightenment, had a high social status. Some of them married into the European aristocracy.

Natural science of the 18th century considered an African an exotic rarity of nature and the then philosophy of enlightenment described him as a human ideal, the “noble savage”.

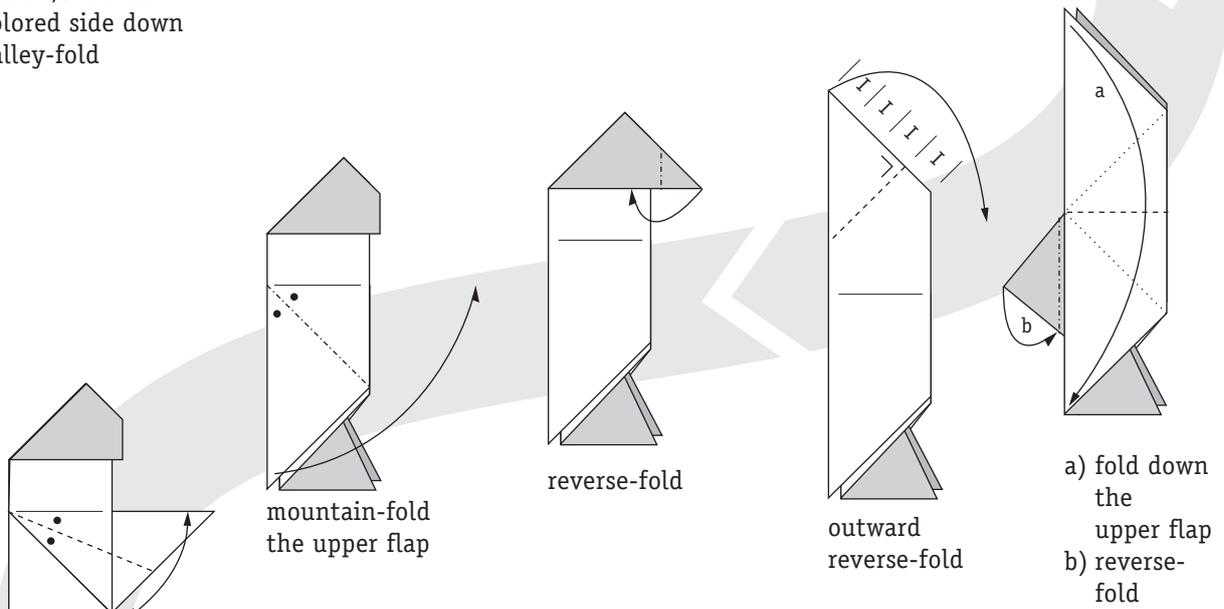
The Prussian “soldier king” assembled a military music corps made up of “moors” that consisted of approximately 30 Africans as musicians. In 1724 a special music school was established for them in Potsdam. The uniforms of these musicians had oriental traits and their heads were covered with turbans. Each African musician wore 2-inch neck rings as well as drop earrings made of pure silver. Because of this imaginative and valuable outfit, African military musicians were often colloquially called “Turks” or “Janizaries”.



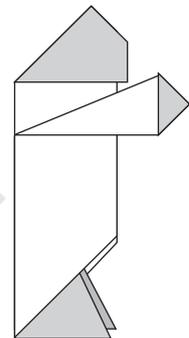
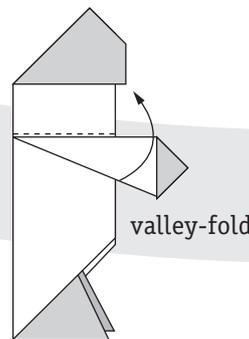
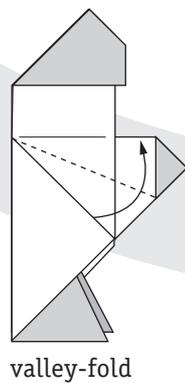
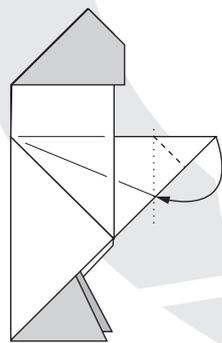
Rider R10 and R11: moors



- size: 7,5x11 cm
- colored side down
- valley-fold



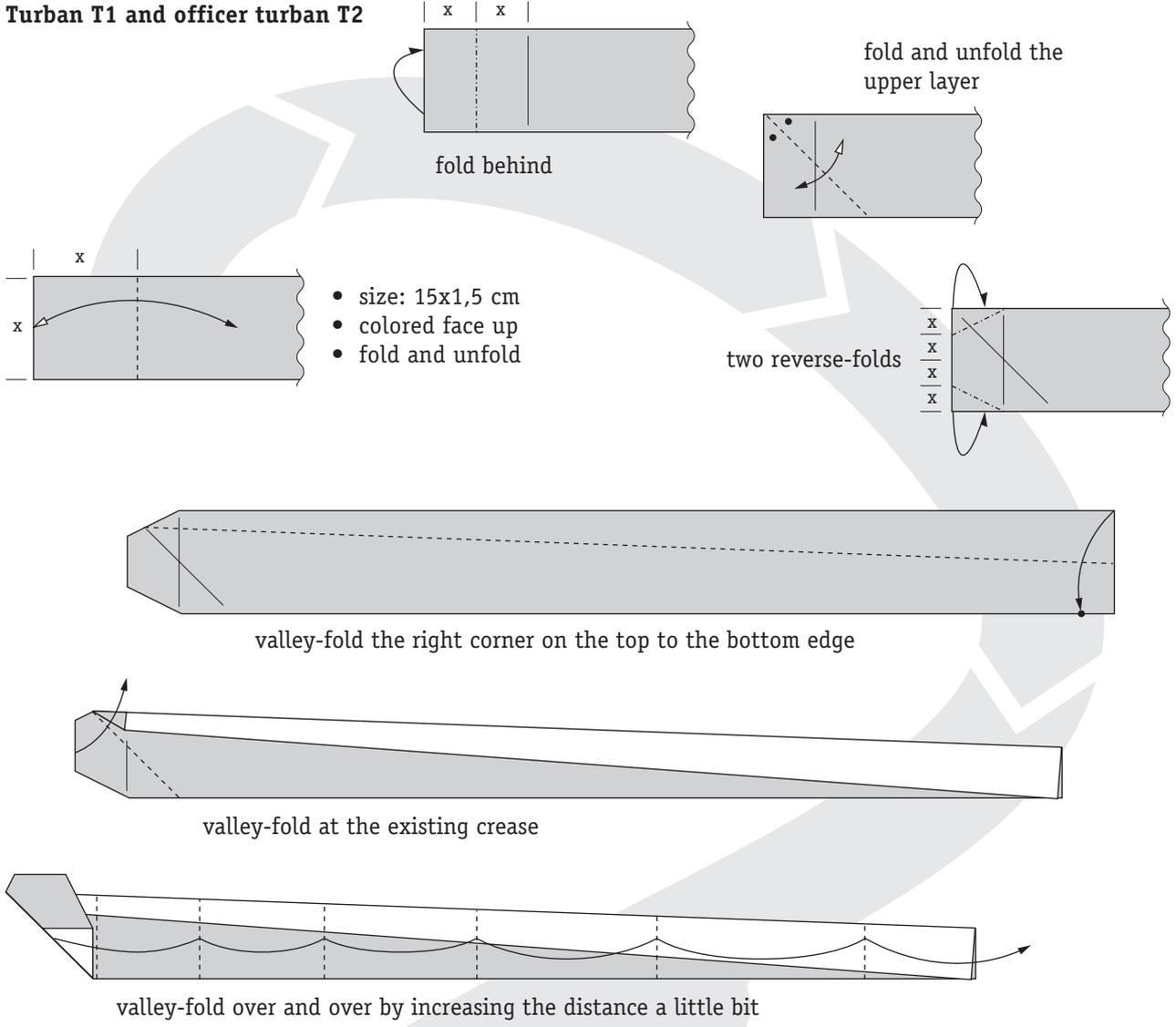
fold and unfold



R10: rider's hand in middle position

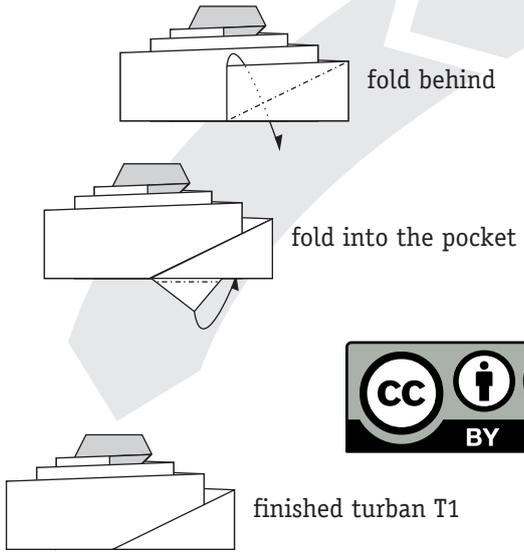
R11: rider's hand in high position

**Turban T1 and officer turban T2**

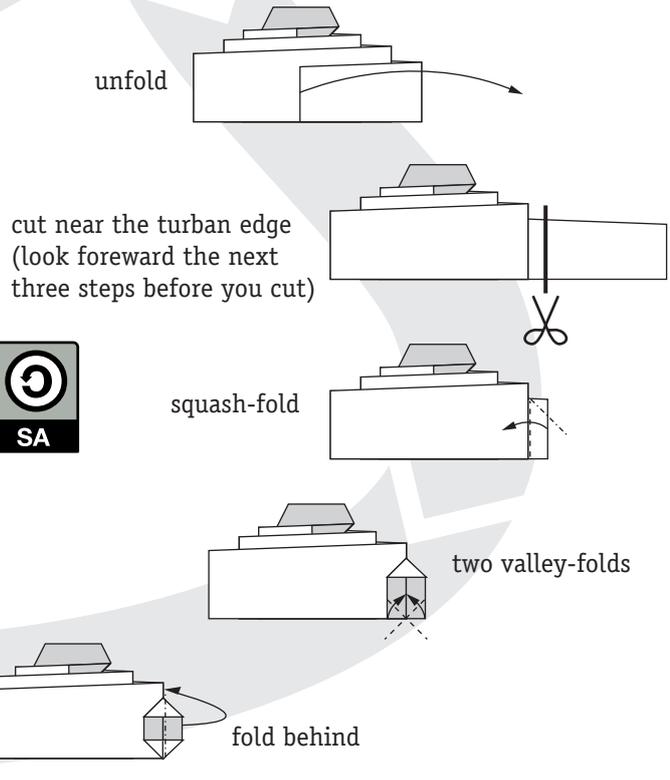


- size: 15x1,5 cm
- colored face up
- fold and unfold

**Turban T1**

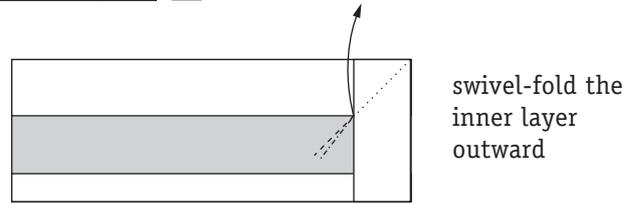
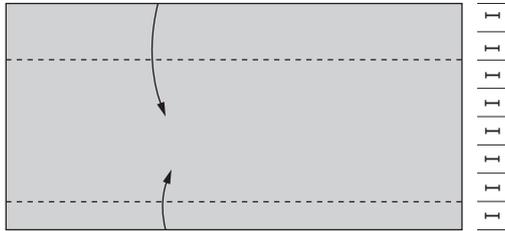
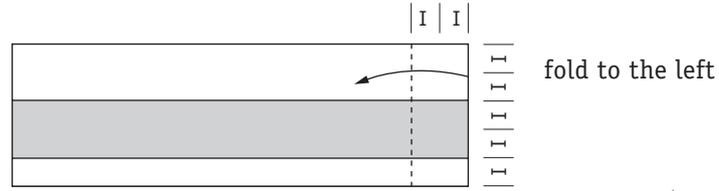


**Officer turban T2**

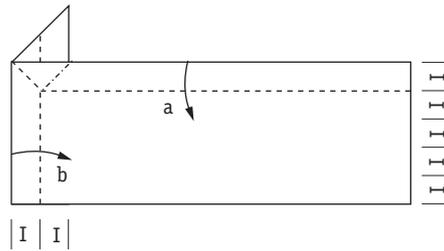
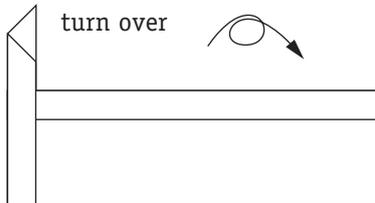
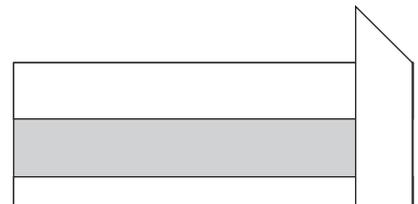


**Drum D1**

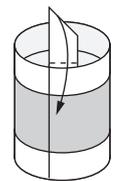
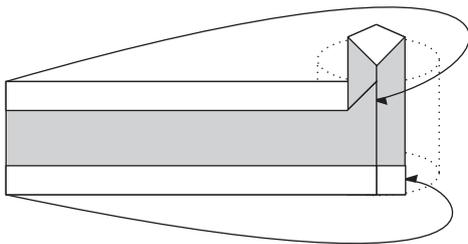
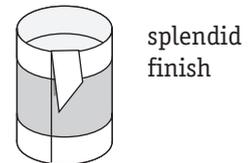
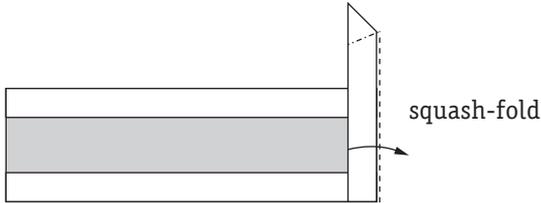
- size: 6x3 cm
- colored face up
- two valley-folds



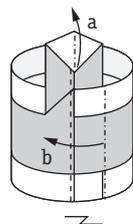
turn over



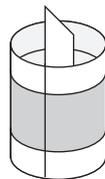
combination fold:  
swivel-fold (a)  
with a valley-fold (b)



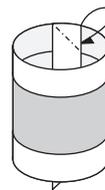
curve a cylinder and tuck the left edge into the pocket as far as you can, the model will become 3-dimensional



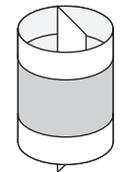
combination fold:  
mountain-fold the tip (a) and pleat-fold the cylinder (b)



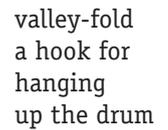
Rotate the model 180° vertically downward



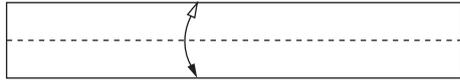
lock the paper in folding to the inner



Rotate the model 180° vertically upward



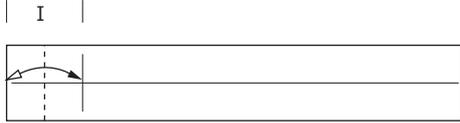
**Mace (military signal baton)**



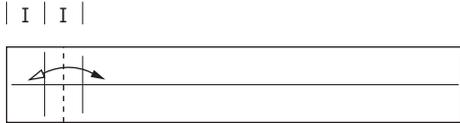
- size: 1x6 cm
- use metal foil
- fold and unfold



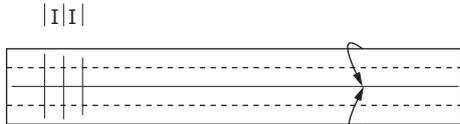
fold and unfold



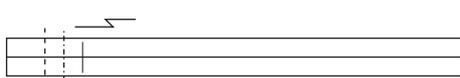
fold and unfold



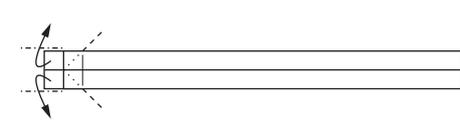
fold and unfold



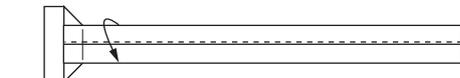
fold to the centerline



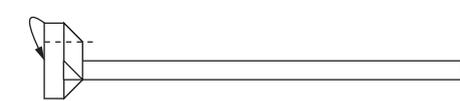
pleat-fold



swivel-fold both sides



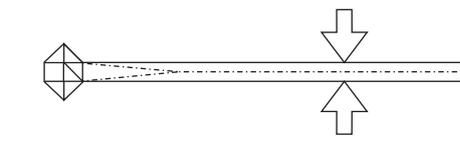
swivel-fold



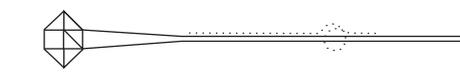
valley-fold



three valley-folds



pinch to a modified rabbit-ear



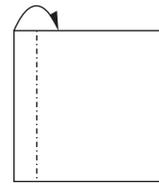
curve a loop as shown



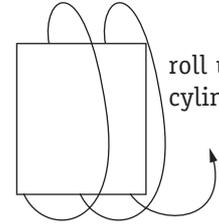
finished mace



**Drum stick**



- size: 2x2 cm
- colored size down
- fold behind near the edge

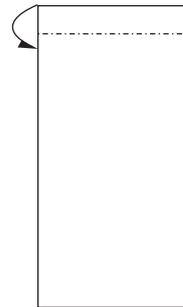


roll up to a cylinder

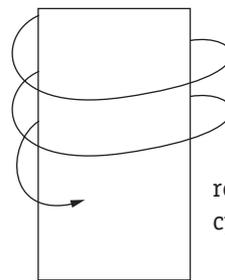


finished drum stick

**Flute**



- size: 2x4 cm
- fold behind near the edge

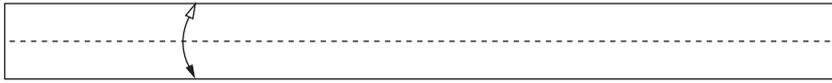


roll up to a cylinder

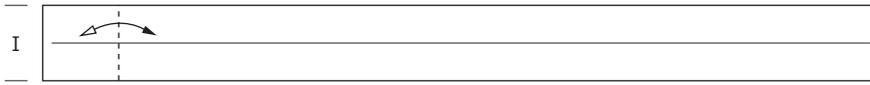


finished flute

# Trumpet



- size: 1x11 cm
- fold and unfold



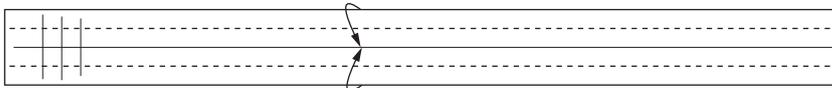
fold and unfold



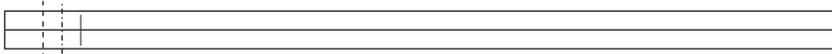
fold and unfold



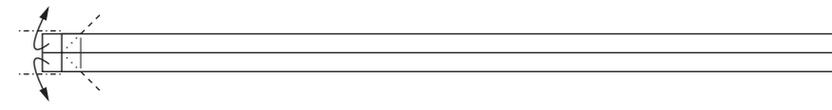
fold and unfold



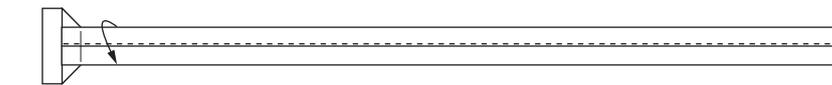
fold to the centerline



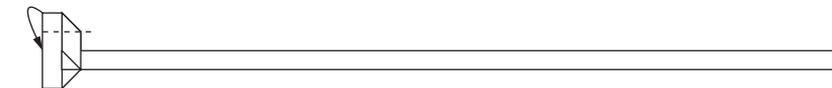
pleat-fold



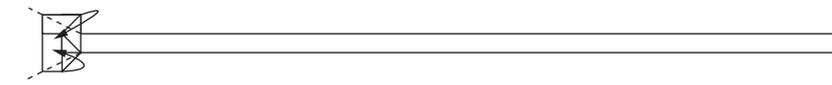
swivel-fold both sides



swivel-fold



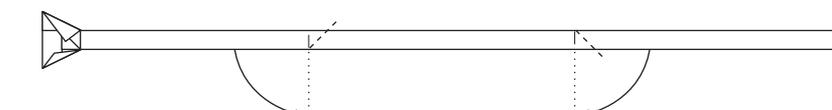
valley-fold



two valley-folds



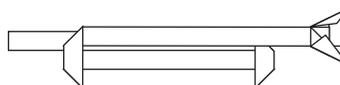
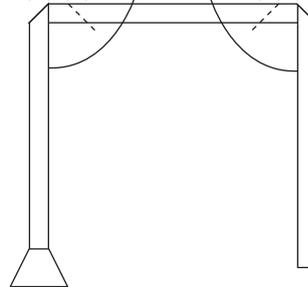
fold and unfold



two valley-folds



two valley-folds



trumpet finished

# Troop Colors

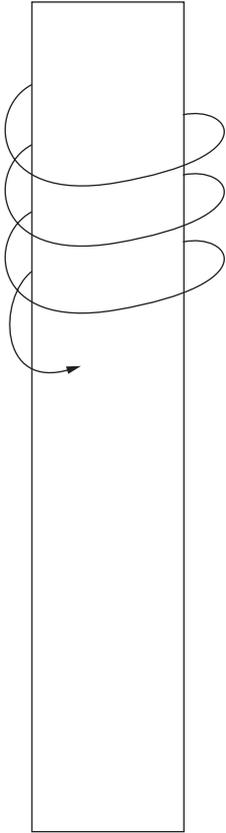
In the battles of the 17th and 18th century troop colors were important flags on the battlefield. They served as an orientation for those participating in the fight. Troop colors were a symbol of esprit de corps, an item of high, moral value and honor for each and every soldier. This adoration went beyond one's own self: Troop colors had to be defended at all cost.

Bearer of the troop colors in battle was, in most cases a battle veteran, reliable and courageous. Under no circumstances was he to lower or drop the colors. The loss of the troop colors was not only a loss of one's honor but the enemy – having captured the troop colors – used them immediately to mislead the seemingly own troop units and – in the end – critically influence the outcome of the battle. The troop colors significantly influenced morale: If the troop colors fell, the respective troop unit practically did not exist anymore – it was doomed.

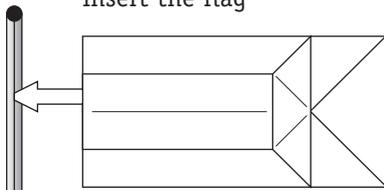


### Flag F1 (and lance pennant)

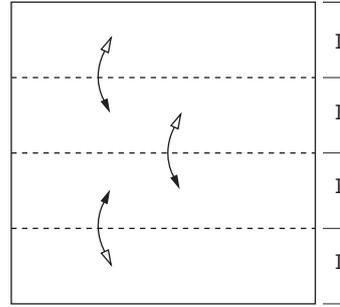
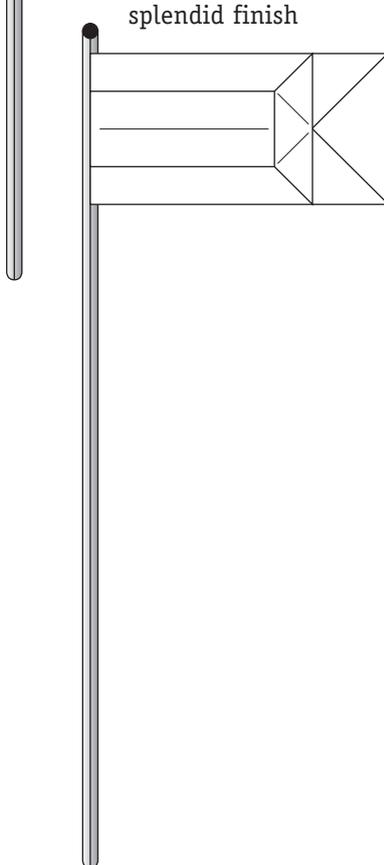
- size: 2x11 cm
- roll up to a cylinder



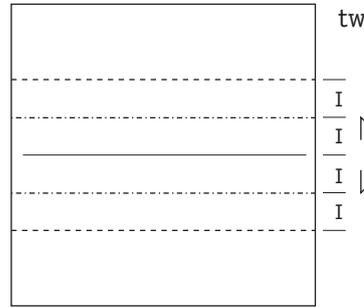
insert the flag



splendid finish



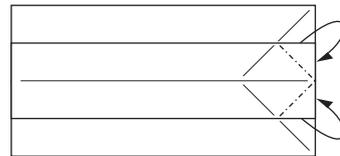
- size: 4,4x4,4 cm
- fold and unfold
- size for lance pennant: 1,5x3 cm



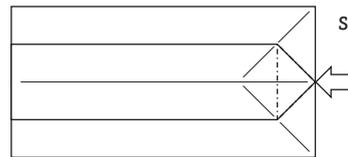
two pleat-folds



fold and unfold two times



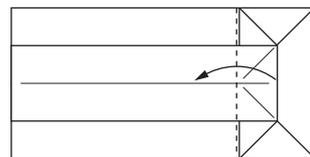
two reverse-folds



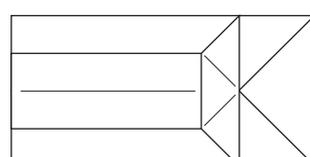
sink the tip



two reverse-folds

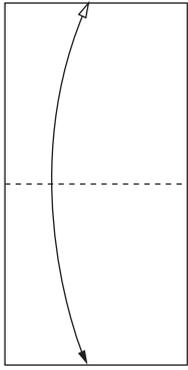


fold to the left

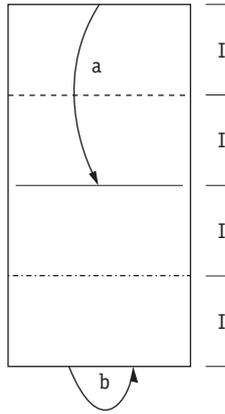


the flag F1

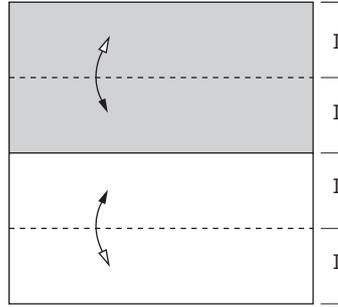
**Flag F2 (and lance pennant)**



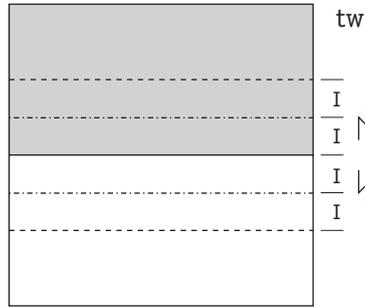
- size: 4,4x8,8 cm
- colored side down
- fold in half and unfold
- size for lance pennant: 1,5x3 cm



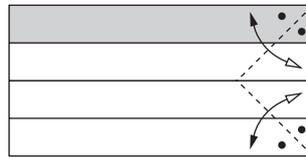
a) valley-fold  
b) fold behind



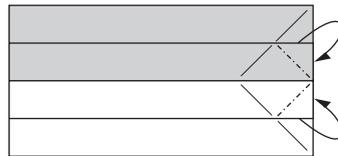
fold and unfold



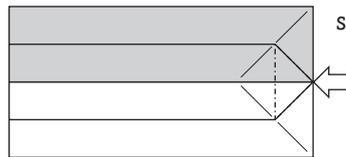
two pleat-folds



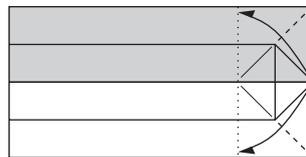
fold and unfold two times



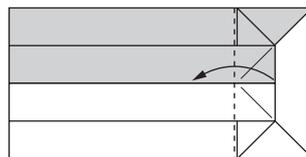
two reverse-folds



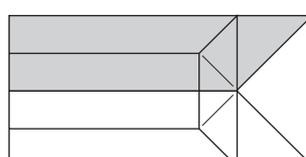
sink the tip



two reverse-folds

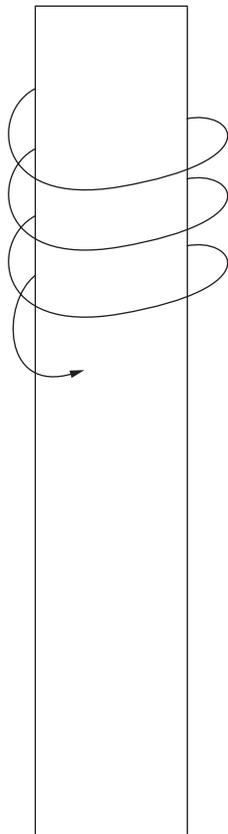
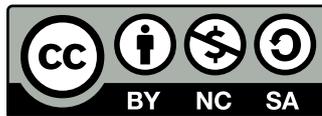


fold to the left

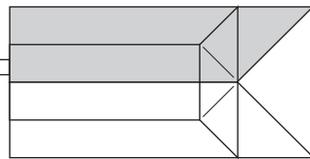


the flag F2

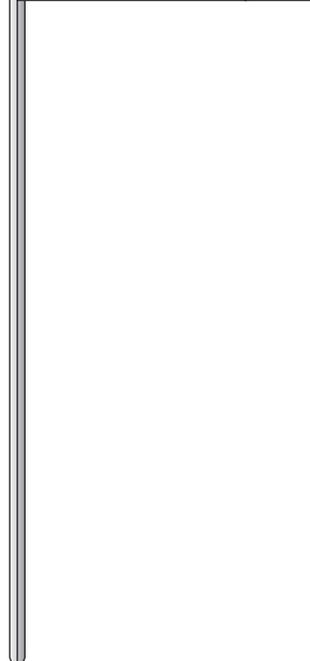
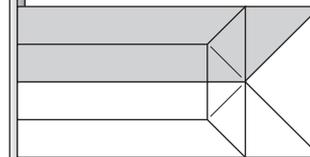
- size: 2x11 cm
- roll up to a cylinder



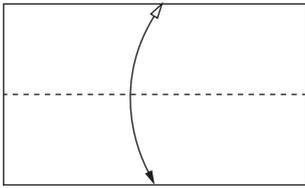
insert the flag



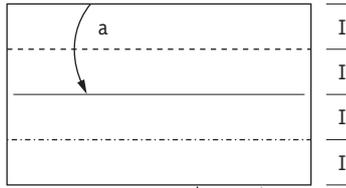
splendid finish



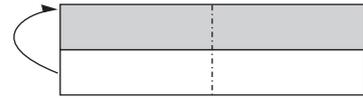
**Flag F3**



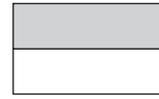
- size: 8x4,4 cm
- colored side down
- fold in half and unfold



- a) valley-fold
- b) fold behind



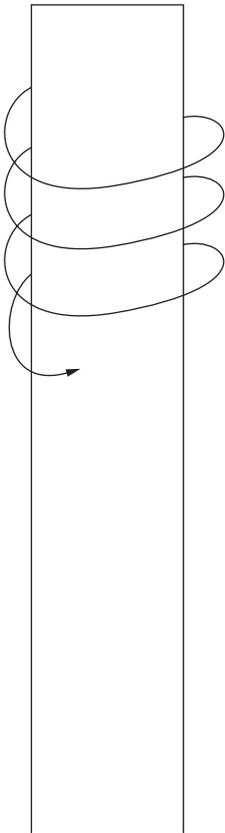
fold in half



finished Flag F3



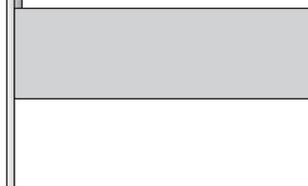
- size: 2x11 cm
- roll up to a cylinder



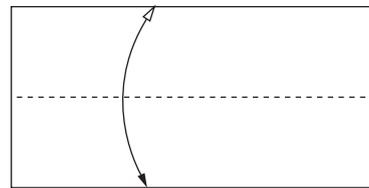
insert the flag



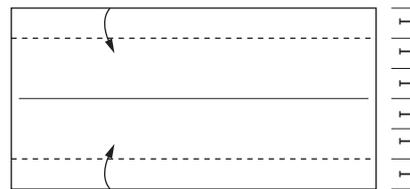
splendid finish



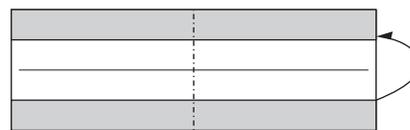
**Flag F4**



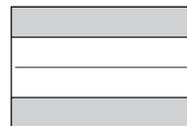
- size: 8x4 cm
- colored side down
- fold in half and unfold



two valley-folds

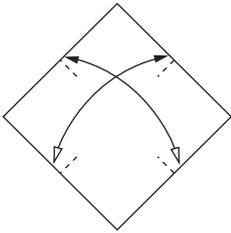


fold in half

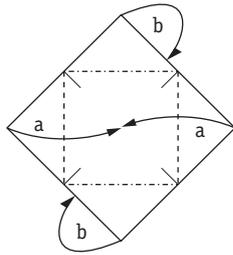


finished Flag F4

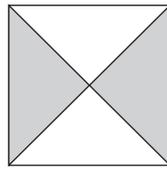
**Flag F5**



- size: 4,4x4,4 cm
- colored side down
- mark the halves only



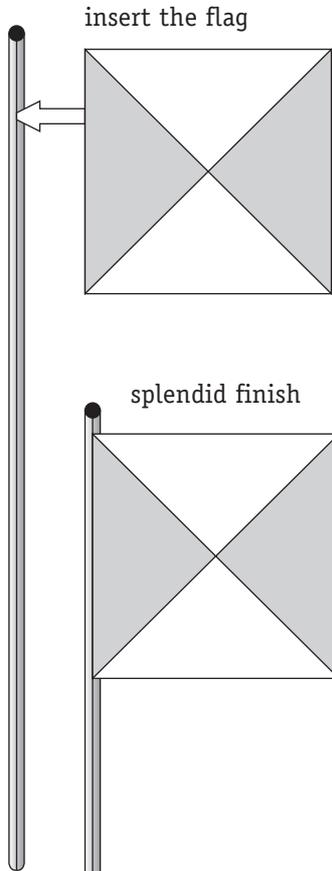
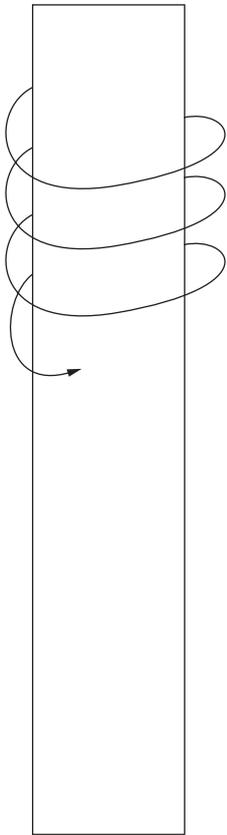
a) valley-fold  
b) fold behind



finished Flag F5



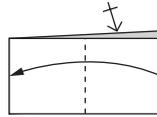
- size: 2x12 cm
- roll up to a cylinder



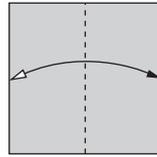
**Flag F6**



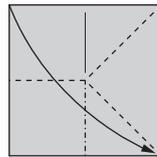
- size: 12x3 cm
- colored face up
- fold in half



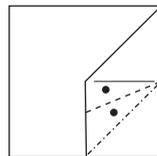
fold in half the upper flap, repeat behind



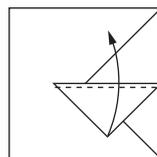
fold in half the upper layer only and unfold, repeat behind



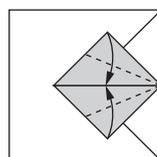
fold a rabbit ear, repeat behind



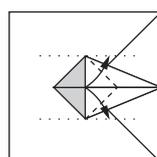
pleat-fold, repeat behind



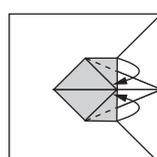
open the triangle, repeat behind



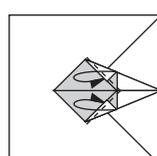
fold to the center, repeat behind



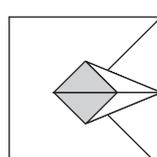
two valley-folds to the guide lines, repeat behind



two valley-folds, repeat behind

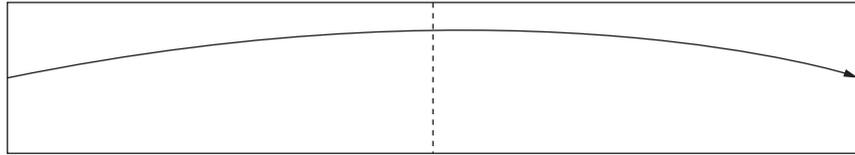


fold to the inner two times, repeat behind

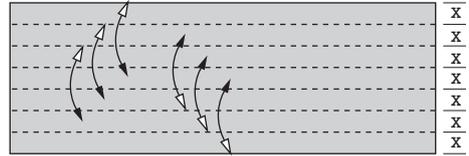


finished flag F6

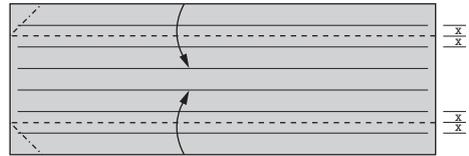
### Flag F7



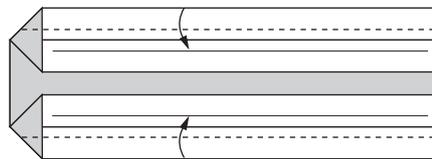
- size: 19,5x3,5 cm
- colored face down
- fold in half



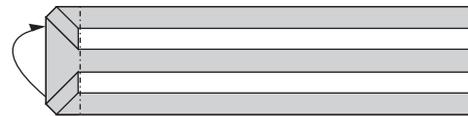
fold in seventh and unfold



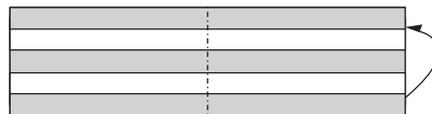
squash-fold



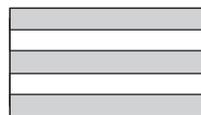
two valley-folds on existing creases



fold behind



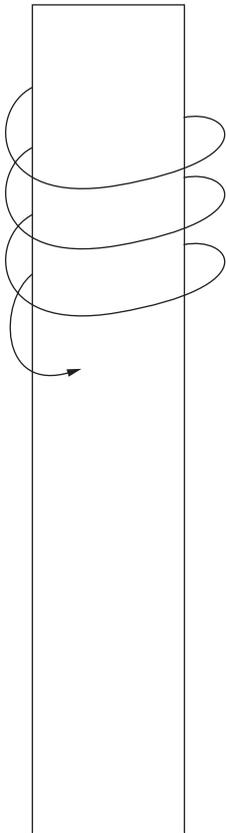
fold behind



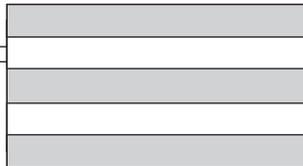
finished flag F7



- size: 2x12 cm
- roll up to a cylinder



insert the flag

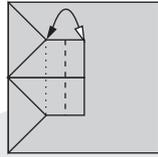
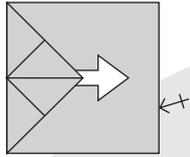


splendid finish

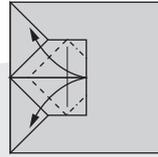


**Ottoman flag F8**

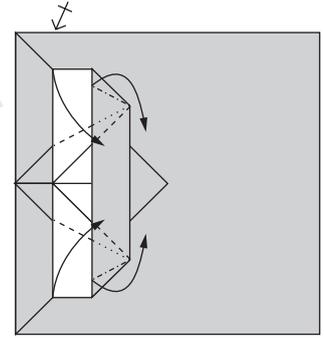
pull out some paper, repeat behind



fold and unfold, repeat behind

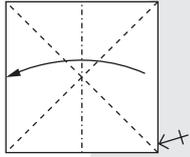
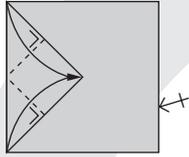


swivel-fold, repeat behind

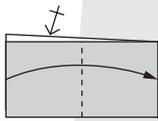


two swivel-folds, repeat behind

fold the tips to the center, repeat behind



collapse the upper layer to a waterbomb base, repeat behind



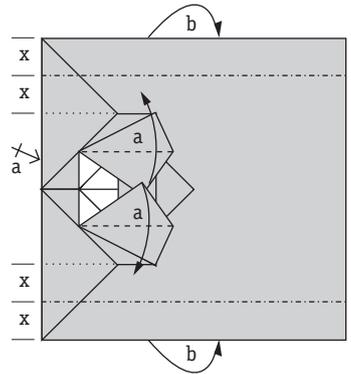
fold in half the upper flap, repeat behind



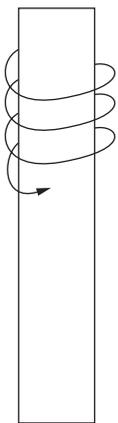
- size: 16x4 cm or 15x3,75 cm
- colored face down
- fold in half



- a) two valley-folds, repeat behind
- b) fold inside at top and bottom



- size: 2x12 cm
- roll up to a cylinder

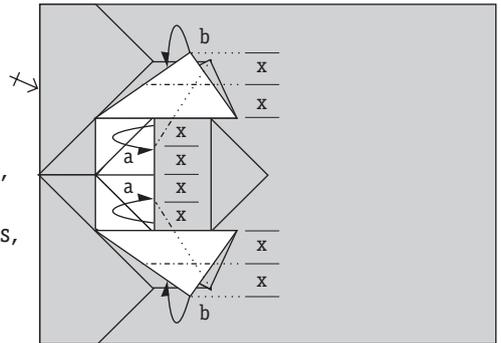


insert or glue on the flag

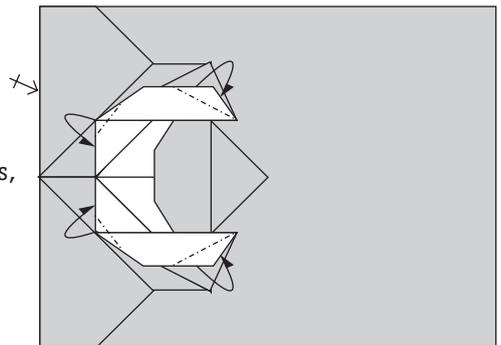
splendid finish



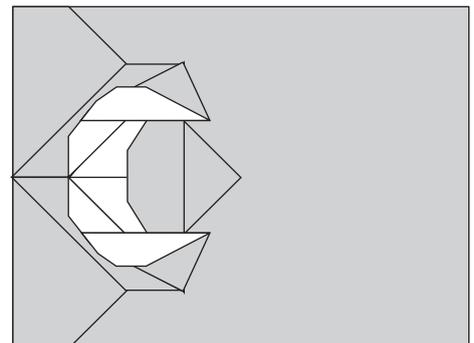
- a) fold inside two times, repeat behind
- b) fold behind two times, repeat behind



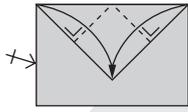
fold behind four times, repeat behind



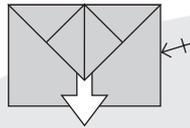
finished ottoman flag F8



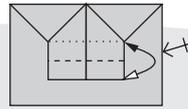
Grenadier's flag F9



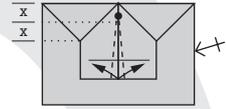
fold the tips to the center, repeat behind



pull out some paper, repeat behind



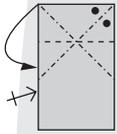
fold and unfold, repeat behind



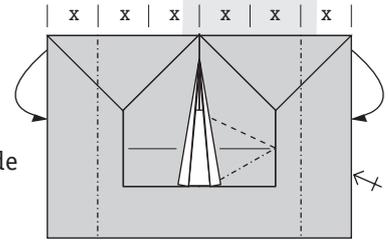
valley-fold a small triangle beginning at the marked point, repeat behind



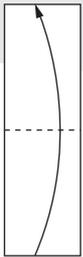
valley-fold, repeat behind



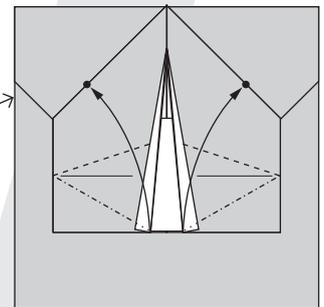
collapse the upper layer to a waterbomb base, repeat behind



fold inside left and right



- size: 15x4,5 cm
- colored face down
- fold in half

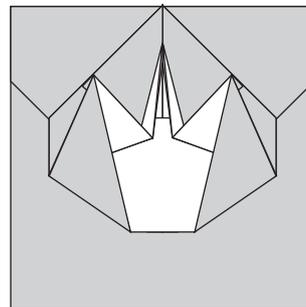


two swivel-folds to the marked edge, repeat behind

- size: 2x12 cm
- roll up to a cylinder

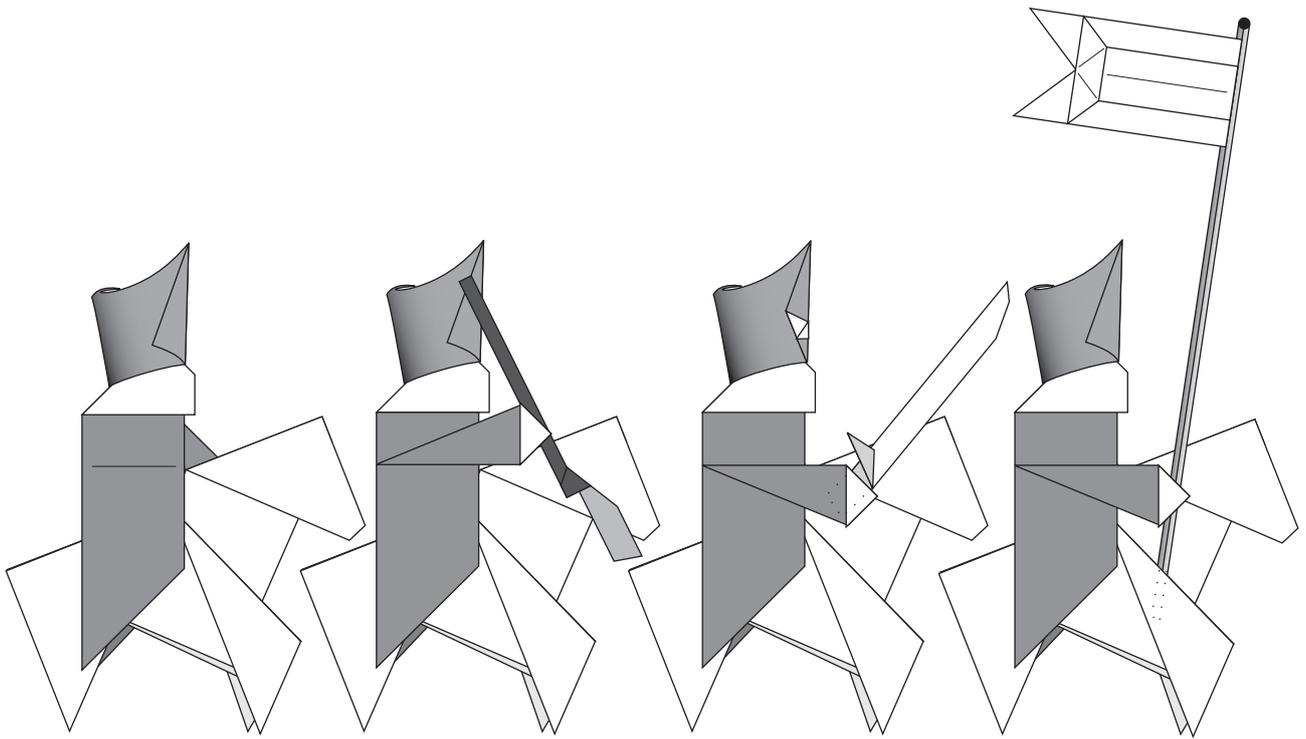
insert or glue on the flag

splendid finish



finished grenadier's flag F9

# Folding Symbols



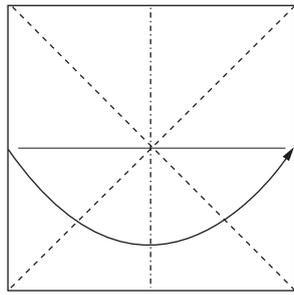
<b>Lines</b>		Mountain fold
		Valley fold
		X-ray line or a guide line
		Cut
		Paper edge
		Crease line
		Rest of the model isn't drawn
<b>Arrows</b>		Fold
		Fold behind or to the inner
		Unfold
		Fold and unfold
		Grasp the paper of the related point and fold
		Fold to the related point
		Repeat, repeat two times, repeat three times, ...
		Repeat steps 7-15
		Rotate the model 90° horizontally to the right
		Rotate the model 90° vertically downward
		Sink or push or pull the paper here
		Blow up the model here
		Turn over to the right
		Zooming in the marked section
	Rotate the model 45° to the left	
<b>Further more symbols</b>		Crimp-fold
		Pleat-fold (zigzags)
		Right angle (e. g. between crease and related edge)
		Equal distances
		Relation between distances (shown 2:3)
		Equal angles (e. g. between crease and two related edges)



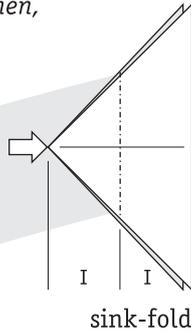
**Some historical horses**

**(HH1 - HH4)**

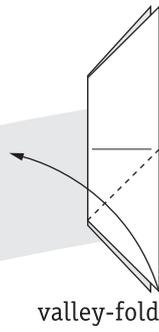
Diagrams by Jens-Helge Dahmen,  
02/2005



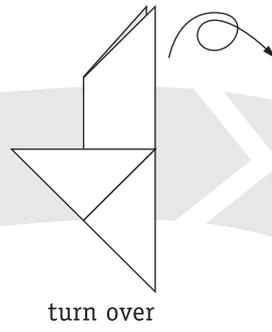
collapse to a waterbomb base



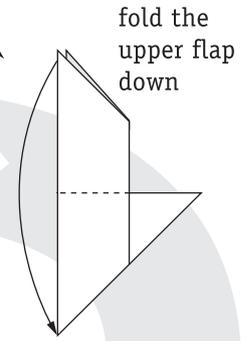
sink-fold



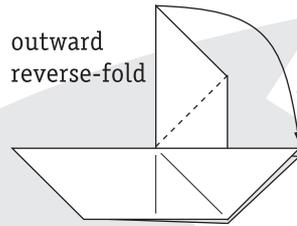
valley-fold



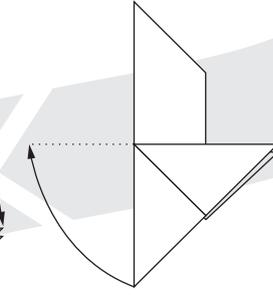
turn over



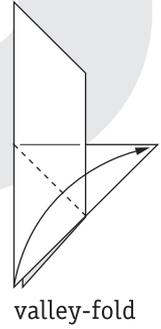
fold the upper flap down



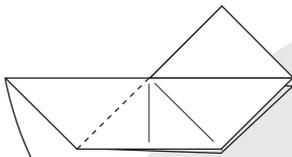
outward reverse-fold



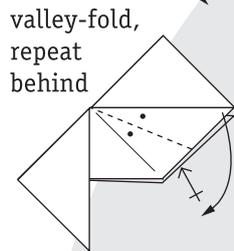
swivel-fold



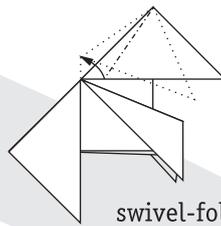
valley-fold



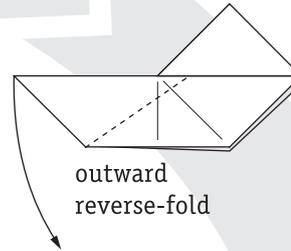
outward reverse-fold



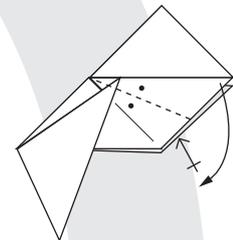
valley-fold, repeat behind



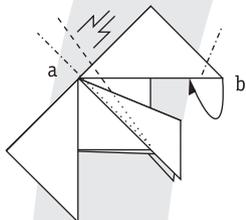
swivel-fold the head



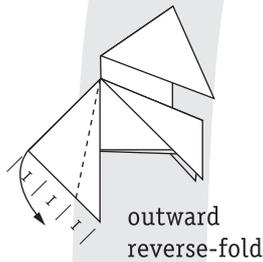
outward reverse-fold



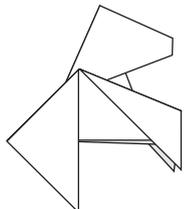
valley-fold, repeat behind



a) crimp-fold the neck  
b) reverse-fold

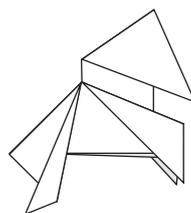


outward reverse-fold

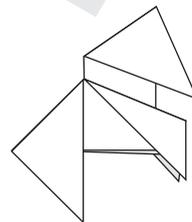


**HH1:**

- "Lustiges Papierfaltbüchlein" J. Huber, 1927
- "Faltarbeiten aus Papier II" G. Netzband, 1936

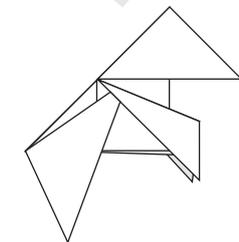


**HR2:** "Volkstümliches Basteln" B. Arbeiter, 1938



**HH3:**

- "Allerlei Papierarbeiten" H. Gierke, 1918
- "Papierarbeit für Schule und Haus" G. Zwiener, 1938
- Germanic National Museum, Nuremberg (Germanisches Nationalmuseum)



**HH4:**

Museum of Saxony Popular Art, Dresden (Museum für sächsische Volkskunst)

# About the Author

## *Jens-Helge Dahmen*

### Work Experience

- Awarded with the Public Relations Award 2011 of the Fraunhofer Society (Fraunhofer-Kommunikationspreis 2011) for the concept and implementation of the PR campaign „The Art of Informatics“
- Since 1992 Art Designer at the Fraunhofer Institute for Software and Systems Engineering ISST
- Employed by the Academy of Science of the German Democratic Republic from 1985-1991 for scientific research in the field of parallel computing

### Relevant Experience in Origami

- October 16-26, 2011: Special guest at the fall school break program „Autumn Leaves - Holiday Folder“ in the Toy Museum Soltau, Northern Germany.
- October 16, 2010: Special guest at the 2th MDOT of Origami Deutschland, Germany, Blankenhain.
- March 12-14, 2010: Special guest at the 27th Origami Convention of the Origami Society Netherlands, Elspeet, conference center „Mennorode“.
- Professional editor for the origami book „Faszinierende Origami-Schachteln“ by Tomoko Fuse (published by Droemer-Knauer, Germany, September 2007, ISBN-13: 978-3-426-64523-9).
- Since 2007 author of several origami books.
- 2006-2011 volunteering for the magazine „der falter“, member of the editorial staff (editor: „Origami Deutschland e.V.“).
- Since 2004 many contributions in convention books of various origami societies, e.g.: AEP (Spain), BOS (United Kingdom), CDO (Italy), MFPP (France), Origami Argentina, OD (Germany), OSN (Netherlands)
- Since 2004 member of the German origami society „Origami Deutschland e.V.“
- In 2003 first own origami creations at medium and high level of difficulty.
- Third contact with origami in 2002 caused by my daughter Paula and my son Leonardo who wanted to fold airplanes from the book „The Great International Paper Airplane Book“ by Jerry Mander, George Dipple and Howard Gossage.
- Second contact with origami in 1990 caused by Eric Kenneway's „Complete Origami“.
- First contact with origami in 1983 caused by the book „Origami, Japanische Faltkunst“ by Edith Wolf (book with a wide range of traditional Japanese models).



Jens-Helge Dahmen (left) with his daughter and son, december 2011.

© creative commons

